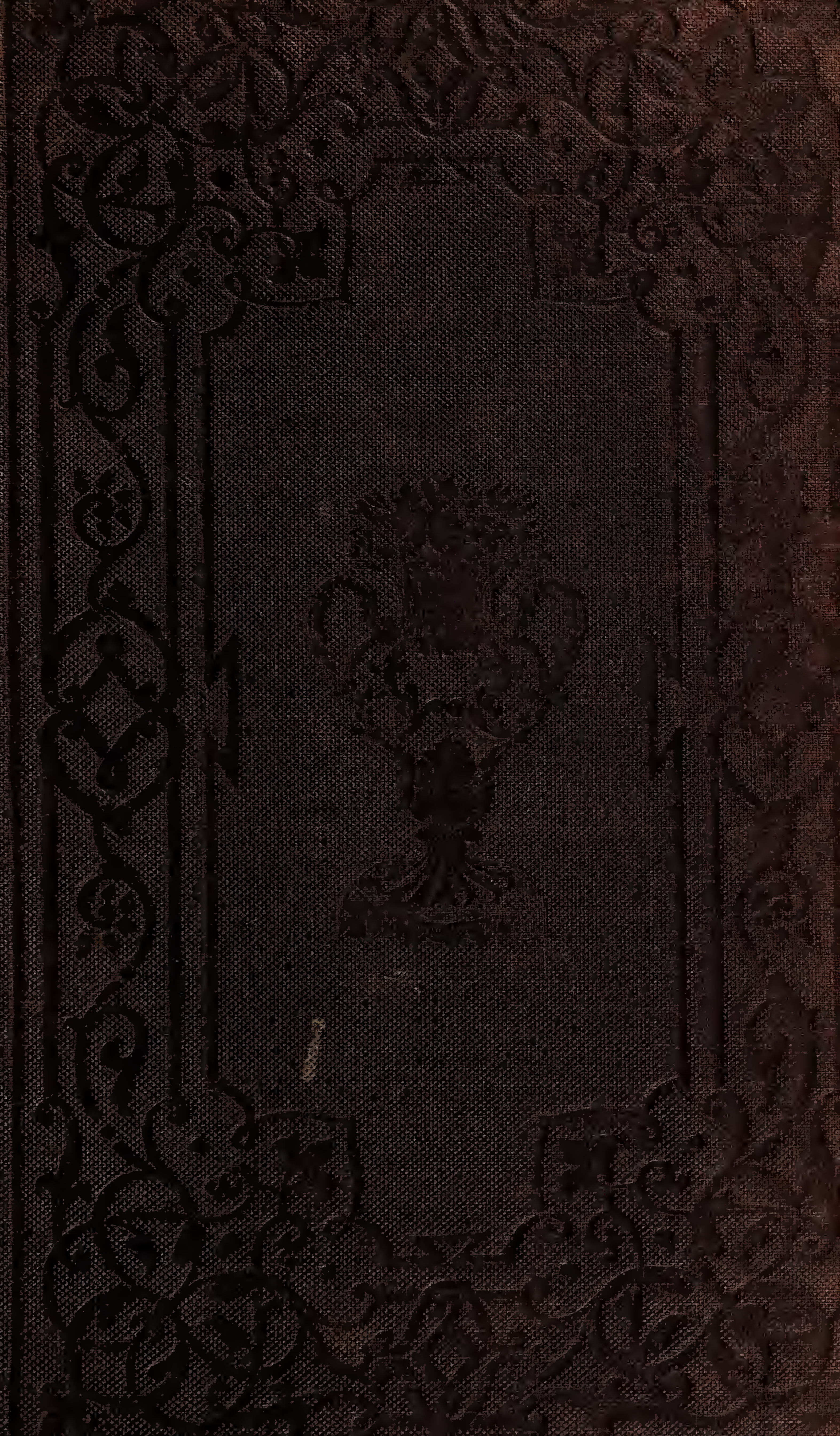

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ENGLISH BOTANY;

OR

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

BY

SIR JAMES EDWARD SMITH, M.D. F.R.S.

PRESIDENT OF THE LINNÆAN SOCIETY, ETC. ETC.

THE FIGURES BY

JAMES SOWERBY, F.L.S. G.S., &c.

> " . . . . . . quos ipsa volentia rura
> Sponte tulere sua . . . ." VIRGIL.

THE THIRD EDITION,

ARRANGED ACCORDING TO THE LINNÆAN METHOD;
WITH THE DESCRIPTIONS SHORTENED, AND OCCASIONAL REMARKS ADDED.

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ENGLISH BOTANY.

CLASS XVII. DIADELPHIA.

ORDER I. HEXANDRIA.

GENUS CCCLXX. CORYDALIS. *Corydalis.*

Nat. Order. FUMARIACEÆ.

GEN. CHAR. *Calyx* 2-leaved, deciduous. *Petals* 4, one of them with a spur at the base or saccate. *Silique* 2-valved, compressed, many-seeded.

Herbs of temperate and cold climates. They have often tuberous roots. The leaves, usually alternate, are more or less divided in a ternate manner, and frequently cirrhose. Flowers irregular, ringent, mostly purple or yellowish. Racemes axillary and terminal. The genus was originally confounded with *Fumaria*, from which it differs in the dehiscent and polyspermous fruit.

CORYDALIS SOLIDA. *Solid Bulbous Corydalis.* TAB. **983.**

Root a solid tuber. Stem simple, erect, with a scale below the lower leaf. Leaves 3 or 4, biternate, with cuneate segments. Bracteas palmate.

Fumaria solida, *Linn. E. B.* 1471. *Smith* III. 253. Corydalis bulbosa, *De Cand. Lindley* 19. *Macreight Man. Brit. Bot.* 11. C. solida, *Hooker ed.* 2. 315. *ed.* 3. 319.

This beautiful spring flower has been found in several parts of the kingdom, but under circumstances that will scarcely warrant its being considered indigenous or even naturalized. In old gardens it is not uncommon, increasing quickly by the multiplication of its bulb-like tubers, but seldom by seed. Stem 1 from each root, about a span high, somewhat zigzag, smooth, declining at first, but always erect when in flower; bearing 1 or 2 lanceolate scales toward the lower part. Leaves 2 to 4, glaucous, smooth, biternate, cut. Raceme terminal, bearing many comparatively large, purple flowers, each with a palmate bractea at the base of its pedicel. Perennial. Flowers in April and May.

The tubers abound in fecula and form a part of the winter provision of the Kalmucs.

CORYDALIS LUTEA. *Yellow Corydalis.* TAB. **984.**

Root fibrous. Stems angular, erect. Leaves bipinnate; the leaflets somewhat cuneate, mostly trifid. Bracteas minute. Spur short, rounded. Siliques nearly cylindrical, shorter than the pedicels.

Fumaria lutea, *Linn.* *E.B.* 588. *Smith* III. 253. Corydalis lutea, *Lindley* 19. *Hooker ed.* 2. 315. *ed.* 3. 319. C. capnoides, *DeCand.* *Macreight Man. Brit. Bot.* 11.

Found on old walls in various places, though probably an original emigrant from the garden. Root fibrous and tufted, strongly fixed between the stones and crevices. Herb very brittle, smooth and glaucous. Stems about 6 inches high, reddish, branched, tufted. Leaves thrice ternate, the ultimate segments 3-cleft. Racemes terminal. Flowers bright yellow. An elegant plant, well adapted to the decoration of the fancy garden, especially on rock-work, grotto, or to relieve the blank of an old wall or building, whether in shade or sunshine. Perennial. Flowers in May and June. A troublesome weed in the dry parterre, springing rapidly from seed which it perfects in great abundance.

CORYDALIS CLAVICULATA. *White Climbing Corydalis.* TAB. **985.**

Stem branched, climbing. Leaves pinnate; leaflets stalked, pedate or ternate, the segments ovate, entire: principal petioles terminating in tendrils. Pedicels very short. Bracteas minute.

Fumaria claviculata, *Linn.* *E. B.* 103. *Smith* III. 254. Corydalis claviculata, *DeCand.* *Lindley* 19. *Hooker ed.* 2. 315. *ed.* 3. 319. *Macreight Man. Brit. Bot.* 11.

A delicate little climbing species, not unfrequent in woods and shady places in a sandy or gravelly soil, but sometimes overlooked amidst the exuberant vegetation that often fosters it. Dr. Hooker observes it "most abundant on walls and roofs of houses in Scotland, especially in the Highlands." Stems very weak and slender, flattened on one side. Leaves glaucous; segments very entire, sharp-pointed. Tendrils branched. Flowers pale yellow or white. Siliques 2- or 3-seeded. Annual. Flowers in June and July.

GENUS CCCLXXI. FUMARIA. *Fumitory.*

Nat. Order. FUMARIACEÆ.

GEN. CHAR. *Calyx* 2-leaved, deciduous. *Petals* 4, one of them saccate or with a spur at the base. Fruit blunt, the style being deciduous; 1-seeded, indehiscent.

The indehiscent, 1-seeded fruit forms the only character of importance in distinguishing between this genus and *Corydalis.* The natural order of which it is the type, seems an intermediate grade between *Papaveraceæ* and *Cruciferæ*, and is highly interesting in a philosophic view of natural arrangement. The species of *Fumaria* are annual; they have all compound leaves and pink or purplish flowers, and, though generally regarded as weeds, our native species are possessed of far more beauty than many of the imported annuals that encumber the modern parterre.

FUMARIA OFFICINALIS. *Common Fumitory.* TAB. **986.**

Stem spreading. Leaves glaucous; segments of the leaflets lanceolate, obtuse. Calyx-leaves not longer than the globose, smooth fruit.

Fumaria officinalis, *E. B.* 589. *Smith* III. 255. *Lindley* 19. *Hooker ed.* 2. 315. *ed.* 3. 320. *Macreight Man. Brit. Bot.* 12.

Var. β. Stems diffuse or climbing. Leaves not glaucous; leaflets broader. Arnott in *Hooker ed.* 2. 316. *ed.* 3. 320. F. media, *DeCand.*

Common in dry cultivated ground and on road-sides, flowering throughout the summer. Stem very much branched, angular. Whole herb very smooth and glaucous. Racemes opposite to the leaves, many-flowered, lax. Bracteas very much shorter than the pedicels of the fruit. Petals rose-coloured, with a green keel to the upper and under ones; deep red at the summit.

The variety β. may possibly be intermediate between this and the following species: the broader and greener foliage and occasionally twining petioles resemble *F. capreolata*, but the inflorescence is that of *F. officinalis.*

FUMARIA CAPREOLATA. *Ramping Fumitory.* TAB. **987.**

Stem climbing. Petioles twining. Leaflets wedge-shaped, lobed. Calyx-leaves twice as long as the globose fruit.

Fumaria capreolata, *E. B.* 943. *Smith* III. 256. *Lindley* 19. *Hooker ed.* 2. 315. *ed.* 3. 319. *Macreight* 12.

Not unfrequent in corn-fields and gardens, but varying much in habit, and in stature from 6 or 8 inches to 3 or 4 feet. In its smaller form liable to be passed over as *F. officinalis*, but the foliage is always broader and of a brighter green, and the flowers nearly twice as large; by which, and especially the large leaves of the calyx, it may be at once distinguished, although the petioles in dwarfed plants sometimes want the tendril-like curves which render the habit of the species in general so remarkable. Flowers usually paler than in the common Fumitory, appearing in succession through the summer.

FUMARIA PARVIFLORA. *Small-flowered Fumitory.* TAB. **988.**

Stem spreading. Segments of the leaflets linear, channeled. Calyx-leaves very minute. Fruit globose, somewhat pointed.

Fumaria parviflora, *E. B.* 590. *Smith* III. 256. *Lindley* 19. *Hooker ed.* 2. 316. *ed.* 3. 320. *Macreight* 12.

Somewhat rare on dry chalky or sandy fields in Kent, Surrey, &c. The habit is that of *F. officinalis*, but it seems well distinguished by the slender, almost capillary segments of the leaves, smaller flowers, and pointed fruit. Two varieties have been noticed, but they differ only in the hue of the petals and in the leaves being more or less glaucous. Flowers in August and September.

ORDER II. OCTANDRIA.

GENUS CCCLXXII. POLYGALA. *Milkwort.*

Nat. Order. POLYGALEÆ.

GEN. CHAR. *Calyx* permanent, 5-leaved, the 2 outer leaves coloured. *Petals* combined by their claws with the filaments; the lower one carinate. *Capsule* compressed, elliptical or obcordate. *Seeds* pendulous, downy, crested at the hilum.

An extensive genus consisting of shrubs and herbs with entire, generally alternate leaves, and blue or pink, more rarely white or yellow, racemose flowers. Many, of the shrubby species especially, are very showy plants, of which Southern Africa has supplied our green-houses with most, if not all, of the species at present known in cultivation. Of the herbaceous kinds North America presents the chief proportion; the rest are widely distributed; but a single species belongs to our Flora, one of the most beautiful ornaments of our heaths. The juice is milky, whence probably the generic name, and very bitter. *P. senega*, the rattle-snake root of the United States, has lost much of its fame as an antidote, but is employed in medicine as a stimulant.

POLYGALA VULGARIS. *Common Milkwort.* TAB. **989**.

Stems herbaceous, simple, ascending. Leaves linear-lanceolate. Flowers in a terminal raceme. Wings of the calyx ovate. Keel crested.

Polygala vulgaris, *E. B.* 76. *Smith* III. 259. *Lindley* 39. *Hooker ed.* 2. 316. *ed.* 3. 320. *Macreight* 27.

This pretty plant often abounds on heaths and dry hilly pastures, putting forth its elegantly crested flowers nearly throughout the summer. Stems procumbent, 4 to 8 inches long, ascending when in flower, numerous, simple. Leaves mostly alternate, and linear-lanceolate, but varying in breadth and obtuseness. Corolla various shades of blue, purple, rose-colour, or white. The 2 large lateral leaves of the calyx, which are of the same hue with the petals, and form the most conspicuous part of the flower, become green afterwards, and completely conceal the flat, cordate, 2-seeded capsule. Perennial.

P. amara, of Mr. D. Don, figured in the Supplement to the original edition of *E. Bot. tab.* 2764, differs very widely from the continental species so called, and can scarcely be regarded even as a fixed variety of the common plant. It is met with on chalky soils, and its chief character of distinction consists, in the greater breadth of the lower leaves, which are generally obtuse, often even spathulate. See Tab. 989*.

ORDER III. DECANDRIA.

All of the plants belong to the natural order Leguminosæ, tribe Papilionaceæ. They have, generally, compound, stipulate leaves. The *Corolla* consists of 5 irregular petals, the upper or posterior of which is sometimes denominated the *vexillum* or standard; the lateral 2, *alæ* or wings; while the 2 anterior or lowermost, united by their margins, form the *carina* or keel, which usually invests the more important organs of the centre. The structure of the flower and the leguminous or podded fruit constitute the true characters of the Linnæan order, the stamens being often monadelphous.

* *Filaments all connected at the base, or monadelphous.*

GENUS CCCLXXIII. ULEX. *Furze.*

GEN. CHAR. *Calyx* 2-leaved, the lower leaf with 3 teeth, the upper one with 2; bibracteolate at the base. *Legume* oval-oblong, scarcely longer than the calyx, turgid, few-seeded.

A small genus of branched, spiny shrubs, with yellow flowers. Natives of the temperate and warmer countries of Europe.

ULEX EUROPÆUS. *Common Furze. Whin. Gorse.* TAB. **990.**

Branches erect. Bracteas ovate, lax. Leaves of the calyx ovate; their teeth obsolete, converging.

Ulex europæus, *E.B.* 742. *Smith* III. 265. *Lindley* 77. *Hooker ed.* 2. 316. *ed.* 3. 321. *Macreight* 50.

On barren sandy or gravelly heaths and commons, throughout England especially, few plants are so abundant, none more brilliant, in the "merry month of May," its flowering season, than

"the blossom'd Furze
With golden baskets hung. Approach it not,
For every flower has a troop of swords
Drawn to defend it. It is the treasury
Of fays and fairies;"

to whose gambols the loveliest scenes in nature have been ever consecrated; and, however familiar to an English eye, what scene more magnificent than a wild, broken country covered with this plant in blossom! Linnæus, on his arrival in England, is reported to have fallen upon his knees in ecstasy at such a view, and, according to Sir J. E. Smith, always lamented that he could hardly preserve the furze alive through a Swedish winter, even in a greenhouse. Few native plants are more impatient of severe cold than this; the late frost (January 1838) has nearly destroyed it over many hundreds of acres. Shrub 3 to 5 feet high. The inordinate development of branched spines seems to check that of the leaves, which are so few and minute, unless upon seedling plants that have not flowered, that a common observer would not detect them; they are lanceolate, a little hairy, and quickly deciduous. Although May is the time of abundant flowering, the blossoms expand throughout the whole year if the winter be mild.

ULEX NANUS. *Dwarf Furze.* TAB. **991.**

Branches reclined. Bracteas minute, close-pressed. Leaves of the calyx lanceolate; their teeth distinct, spreading.

Ulex nanus, *E. B.* 743. *Smith* III. 266. *Lindley* 77. *Hooker ed.* 2. 317. *ed.* 3. 321. *Macreight* 50.

A far less frequent plant than the preceding, which it often accompanies on dry, upland heaths. Some botanists have considered it a mere variety; but its humble growth, very distinct habit and smaller flowers, together with the constancy of the assumed specific characters to both, are sufficient warrant for the separation. Shrub 1 to 2 feet high. Flowers from August to October.

The Irish furze of our plantations, *Ulex strictus* of Mackay, may possibly be distinct from the two preceding. It is an autumn flowerer, and bears some general resemblance to *U. nanus*, but the port is that of *U. europæus*; the branches, however, are more erect, and the spines sufficiently soft and succulent to be fed on by cattle, a purpose for which its cultivation has been often recommended.

GENUS CCCLXXIV. GENISTA. *Greenweed.*

GEN. CHAR. *Calyx* 2-lipped; the upper lip with 2 deep segments, the lower with three teeth. *Vexillum* oblong, bent backwards. *Keel* oblong, straight, not quite inclosing the stamens. *Legume* flat, or turgid, mostly many-seeded.

Shrubs, generally of small size, with evergreen foliage and yellow flowers. Natives for the most part of Europe, north Africa, and the adjacent islands of the Atlantic.

GENISTA TINCTORIA. *Dyer's Greenweed. Woad-waxen.* TAB. **992.**

Branches round, striated, erect, without spines. Leaves lanceolate, smooth. Legumes smooth.

Genista tinctoria, *E. B.* 44. *Smith* III. 263. *Lindley* 77. *Hooker ed.* 2. 317. *ed.* 3. 321. *Macreight* 51.

Not uncommon in pastures, thickets, and on the borders of fields throughout the kingdom, growing to the height of 1 or 2 feet, and flowering in July and August. Root creeping. Stems and branches numerous, very strongly striated. Leaves simple, distant. Flowers golden yellow, nearly sessile, forming spike-like racemes at the termination of the branches. The whole plant is bitter, and communicates its flavour to the milk of cows feeding in pastures where it abounds. The young shoots and flowering tops yield a good yellow dye, which, with the addition of Woad, *Isatis tinctoria*, becomes green. It was formerly thus employed for dyeing woollen yarn; hence the provincial names.

GENISTA PILOSA. *Hairy Greenweed.* TAB. **993.**

Stem prostrate, unarmed. Leaves lanceolate, obtuse, silky beneath. Calyx and flower-stalks silky. Legumes downy.

Genista pilosa, *E. B.* 208. *Smith* III. 263. *Lindley* 77. *Hooker ed.* 2. 317. *ed.* 3. 321. *Macreight* 51.

A very local species, but found in tolerable abundance on dry sandy heaths about Bury in Suffolk; likewise met with in rocky places near the Land's End, Cornwall, and at the foot of Cader Idris, North Wales. Stem much branched, irregular, tortuous, very woody. Flowers deep yellow, axillary, on short pedicels, solitary or in pairs, but clustered at the extremities of the branches, or forming leafy racemes. An ornamental little shrub, seen to most advantage as a trailer on dry rock-work. Flowers in May and often again in the autumn.

GENISTA ANGLICA. *Needle Greenweed. Needle Furze. Petty Whin.* TAB. **994.**

Spinous; spines simple, wanting on the flowering branches. Leaves ovato-lanceolate, smooth. Legumes smooth.

Genista Anglica, *E. B.* 132. *Smith* III. 264. *Lindley* 77. *Hooker ed.* 2. 317. *ed.* 3. 322. *Macreight* 51.

Common on moist, boggy heaths. Stem very much branched, tough, 1 to 2 feet high, declining; armed with very slender, sharp thorns. Leaves very small, somewhat glaucous. Flowers bright yellow, axillary, on short pedicels, somewhat racemose. Legumes oval, turgid, smooth, containing 10 or 12 seeds.

GENUS CCCLXXV. ONONIS. *Rest-Harrow.*

GEN. CHAR. *Calyx* campanulate, 5-cleft, its segments linear. *Vexillum* large, striated. *Legume* generally turgid, sessile, few-seeded.

The genus, which is large, consists of herbaceous plants and under-shrubs, chiefly distributed over Europe, Africa, and the islands adjacent. Leaves ternate or simple. Flowers axillary, yellow or purple. The tenth stamen is occasionally separate from the others, or nearly so.

ONONIS SPINOSA. *Thorny Rest-Harrow. Cammock. Ground Furze.* TAB. **995.**

Stem nearly erect, spinous; flowering branches (sometimes) with 1 or 2 distinct rows of hairs. Leaves ternate, oblong, wedge-shaped, and entire toward the base. Lobes of the calyx shorter than the legume.

Ononis arvensis, *E. B.* 682. *Smith* III. 267. *Hooker ed.* 2. 318. *ed.* 3. 322. O. spinosa, *DeCand. Lindley* 78. *Macreight* 52. O. antiquorum, *E. B. Supp.* 2659 ad calc. *Linnæus*?

This species grows abundantly on heaths, way-sides, and the borders of barren fields where the soil is sandy. It is variable in habit, more or less erect or procumbent, and, like most thorny plants, will differ as to the greater or less development of its spines, but is under all circumstances very distinct in appearance from the following. Stem cylindrical, much branched, the branches usually terminating in a spine; never completely clothed with hairs, but often with a row or two running lengthwise. Leaves mostly ternate, elliptical or wedge-shaped, serrated at the upper part. Flowers large and handsome, deep rose-colour or rarely white, axillary and solitary; produced in succession from June to September. Herbaceous. Perennial.

ONONIS PROCURRENS. *Trailing Rest-Harrow.* TAB. **995***.

Stem procumbent, spreading, rooting, unarmed; flowering branches ascending, hairy all over. Lower leaves ternate, upper ones simple; all roundish-oval or oblong, serrated, and clothed with glandular hairs. Lobes of the calyx rather longer than the legume.

Ononis arvensis, *E. B. Supp.* 2659. *Smith* III. 267. O. procurrens, *DeCand. Lindley* 78. *Macreight* 52.

Less frequent than *O. spinosa*, from all the varieties of which it may be readily distinguished by comparison, although it is difficult to assign positive characters of distinction that shall not under any circumstances be invaded by either. Thus the spines are sometimes very small in number on *O. spinosa*, while *O. procurrens* will occasionally develope a few, and thus approach it in its most obvious superficial feature; at the same time we have never found specimens of either, where much difficulty occurred in deciding to which of the supposed species it ought to be referred. We cannot add to the importance of the specific characters above given, without transgressing the limits of a mere compendium. Herbaceous. Flowers from June to September. Both of these plants have a half-shrubby aspect, especially *O. spinosa*, but their stems die nearly to the crown of the root every season.

GENUS CCCLXXVI. CYTISUS. *Cytisus* and *Broom.*

GEN. CHAR. *Calyx* 2-lipped; the upper lip nearly entire or with 2 small teeth, the lower one slightly 3-toothed.

Vexillum large, broadly ovate. *Keel* very blunt, enclosing the stamens. *Legume* compressed, flat, many-seeded.

[This genus should have followed Genista as its most natural position, but an error occurred in numbering the plates.]

Trees or shrubs with ternate leaves and yellow, rarely white or purple flowers. Chiefly European.

CYTISUS Scoparius. *Common Broom.* Tab. **996**.

Branches angular, without spines, leafy. Leaves petiolate, the upper ones simple; leaflets ovate. Flowers solitary, on short pedicels. Legumes hairy at the margin.

Spartium Scoparium, *Linn. E. B.* 1339. *Smith* III. 261. Cytisus Scoparius, *De Cand. Lindley* 77. *Hooker ed.* 2. 318. *ed.* 3. 322. *Macreight* 51.

This beautiful shrub, frequent on heaths and dry gravelly hills, varies greatly in stature according to soil and the degree of shelter afforded by its situation; on exposed heaths and commons it is usually of humble growth; on the sunny side of a wood or precipice it will attain the height of 8 or 10 feet. Its large bright yellow flowers, developed profusely in the early part of summer, and copious evergreen twigs, have occasioned its frequent introduction to the garden and shrubbery. Branches straight, angular. Leaves very small, ternate, or simple, deciduous. Flowers mostly solitary, axillary; the petals generally much expanded so as to exhibit the stamens. Legumes compressed, dark brown, a little hairy. Seeds flattish, glossy. The whole plant is bitter, and has a place in our Materia Medica, an infusion of the green tops having been long in repute as a remedy in dropsy; it is at least powerfully purgative and diuretic.

Genus CCCLXXVII. ANTHYLLIS. *Kidney-Vetch.*

Gen. Char. *Calyx* 5-toothed, inflated. *Petals* nearly equal in length. *Legume* ovate, 1- to 3-seeded; always enclosed in the persistent calyx.

Herbs and shrubs chiefly natives of southern Europe. Inflorescence generally capitate. Flowers yellow, red or white.

ANTHYLLIS vulneraria. *Kidney-Vetch. Lady's-finger.* Tab. **997**.

Herbaceous. Leaves pinnated; the leaflets unequal. Heads of flowers in pairs.

Anthyllis vulneraria, *E. B.* 104. *Smith* III. 269. *Lindley* 79. *Hooker ed.* 2. 318. *ed.* 3. 322. *Macreight* 52.

Frequent in dry pastures and on the borders of fields in chalky or limestone districts. Stem ascending, 6 inches to a foot in height.

Leaflets very unequal in size, the terminal one always the largest, entire, hairy with soft, silky hairs, especially upon the margin and under side. Bracteas digitate. Heads of flowers very much crowded, one lower than the other. Calyx hairy. Corolla yellow, rarely red or white. Perennial. Flowers from June to September.

The herbage is eaten by cattle; and as some of the most profitable sheep-pastures of southern Europe abound with this species, it would probably repay the attention of the British farmer in many of the dry and barren districts of our island. The plant figures in some of the old herbals as a styptic, hence the specific name; but it has long since lost its repute.

** *Stamens diadelphous*, 9 *united*, 1 *separate.*

† *Style downy beneath the stigma.*

Genus CCCLXXVIII. OROBUS. *Bitter-Vetch.*

Gen. Char. *Calyx* obtuse at the base, oblique at the mouth, its upper segments deeper and shorter. *Style* linear, slender, downy above. *Legume* oblong, many-seeded.

Perennial herbs with abruptly pinnate leaves, the place of the terminal leaflet being occupied by a seta. Flowers various, axillary, mostly racemose. Natives of Europe and northern Asia.

OROBUS tuberosus. *Tuberous Orobus.* Tab. 998.

Glabrous. Stem simple, erect. Stipules half arrow-shaped, toothed at the base. Leaves with 2 to 4 pairs of elliptical-lanceolate leaflets, glaucous beneath.

Orobus tuberosus, *E. B.* 1153. *Smith* III. 272. *Lindley* 86. *Hooker ed.* 2. 318. *ed.* 3. 322. *Macreight* 60.

A frequent plant in hilly woods and thickets; very common in the mountainous districts of the north. Underground stems tuberous, creeping widely. Flower-stems erect, simple, about a foot high, winged. Leaflets entire, with 3 parallel veins. Racemes long, axillary, loosely flowering. Petals purple with deeper veins. Legumes long, cylindrical, pendulous; black when ripe, and tipped with the permanent style.

The fleshy underground stems have a sweet taste resembling that of liquorice: they are chewed by the Highlanders to assuage hunger and thirst, and in some parts of Scotland a fermented liquor is prepared from them which is said to be an agreeable beverage. In Flanders they are often roasted and eaten in the manner of chestnuts.

OROBUS niger. *Black Bitter-Vetch.* Tab. 998*.

Glabrous, or nearly so. Stem branched, angular, erect. Stipules linear-lanceolate, acute. Leaves with 3 to 6 pairs of ovate or elliptical leaflets.

Orobus niger, *E. B. Supp.* 2788. *Smith* III. 270. *Lindley* 87. *Hooker ed.* 2. 319. *ed.* 3. 323. *Macreight* 60.

Discovered growing wild on shaded rocks in the Den of Airly, Forfarshire, by Mr. T. Drummond, subsequently by Dr. MacLachlan at Craganain, a rock within two miles of Moy House, Inverness-shire. Long cultivated in our gardens as a pretty herbaceous plant, flowering in June and July. Root long and tapering. Stem 12 to 18 inches high. Leaflets pinnately veined. Racemes with 6 or 8 flowers, which are more closely set than those of *O. tuberosus*, the petals deeply veined with crimson and elegantly varied with bluish-purple and red. Pods linear, somewhat compressed. The whole plant changes to black in drying.

OROBUS SYLVATICUS. *Wood Bitter-Vetch.* TAB. 999.

Stem branched, hairy, decumbent. Stipules half arrow-shaped. Leaves hairy, with 7 to 10 pairs of ovate-oblong, acute leaflets.

Orobus sylvaticus, *E. B.* 518. *Smith* III. 273. *Lindley* 87. *Hooker ed.* 2. 319. *ed.* 3. 323. *Macreight* 60.

In rocky and mountainous woods and thickets in the north of England, Wales, and Scotland this species is tolerably frequent. The decumbent stems and numerous leaflets at once distinguish it from the foregoing species, but the degree of pubescence varies according to situation. Flowers in unilateral racemes, pale purplish-white, or cream-colour, with purple streaks. Legume ovate, compressed, smooth, light-brown, seldom more than 3-seeded. Flowers in May and June.

GENUS CCCLXXIX. LATHYRUS. *Vetchling. Everlasting Pea.*

GEN. CHAR. *Calyx* with its mouth oblique, the 2 upper segments being shortest. *Style* flat, dilated upwards, pubescent in front. *Legume* oblong, many-seeded.

Climbing herbs with abruptly pinnate leaves, the place of the terminal leaflet occupied by a tendril. Flowers various, axillary, solitary or in racemes. The flattened style chiefly distinguishes this genus from *Orobus*, but it is more obviously characterized by the tendency to abortion in the leaflets, and their conversion into tendrils to assist the plants in climbing, a habit not met with in the preceding genus. Natives of the temperate countries of both hemispheres. The herbage of some species is eaten by cattle, but the ripe seeds are generally unwholesome; those of *L. sativus* especially, a continental species, occasioning, when used as food, rigidity of the limbs and a total loss of muscular power, as well in man as in domestic animals.

* *Annuals. Peduncles* 1- *to* 3-*flowered.*

LATHYRUS APHACA. *Yellow Vetchling.* TAB. **1000.**

Stem diffuse or climbing. Stipules large, cordato-sagittate. Tendrils without leaflets. Peduncles single-flowered.

Lathyrus Aphaca, *E. B.* 1167. *Smith* III. 274. *Lindley* 86. *Hooker ed.* 2. 319. *ed.* 3. 323. *Macreight* 59.

A rare plant upon the borders of sandy and gravelly fields, and chiefly to be met with in the eastern counties of England lying between the Thames and the Wash. Remarkable for the total abortion of the leaves, except in very young plants, the office of those organs being fulfilled by the dilated stipules. Stem branched, supporting itself by numerous simple tendrils. Stipules a little toothed towards the base. Flowers yellow, solitary, drooping on long axillary peduncles; they appear in succession from June to August. Legume few-seeded, smooth. The whole plant has a somewhat glaucous hue. A pair of minute leaflets is seen on the rudimentary tendrils of very young plants.

The seeds are unwholesome and cause intense headache if eaten.

LATHYRUS NISSOLIA. *Crimson Vetchling. Grass Vetchling.* TAB. **1001.**

Stem erect. Leaves simple, linear-lanceolate, without tendrils. Stipules minute, awl-shaped. Peduncles single-flowered.

Lathyrus Nissolia, *E. B.* 112. *Smith* III. 275. *Lindley* 86. *Hooker ed.* 2. 319. *ed.* 3. 323. *Macreight* 59.

This pretty species of Lathyrus is far more frequent than generally supposed, but must be closely sought for, unless in flower, to be detected even by the experienced botanist, on account of the near resemblance of its foliage to that of the grasses among which it grows. Shady, unfrequented lanes, the borders of woods, thickets, and grassy sheltered banks are its favourite habitats. Stem very slender. Flowers on long axillary peduncles, solitary, or at most in pairs: bright crimson. Legumes very long, linear, nearly cylindrical, smooth. Whole plant glabrous. Flowers in May and June.

The simple leaves, not terminated by tendrils, form a remarkable feature of this species as contrasted with the rest of the genus; but such differences are simply different degrees of development, and are of frequent occurrence among Leguminous plants. In the last species, *L. Aphaca*, the vessels of the petiole remain unseparated, forming a simple tendril, while the lamina of the leaf being abortive, the nutritive juices are expended upon the inordinate dilation of the stipules, which are thus made capable of performing the necessary functions of leaves. In the present, the true leaf may still be regarded as abortive, but the petiole dilates through its whole length, reducing, by its appropriation of nutriment for that purpose, the stipules at its base to a state little more than rudimentary; the metamorphosis in all instances consisting only in the enlargement of one part or another of the same organ at the expense of the rest.

LATHYRUS HIRSUTUS. *Rough-podded Vetchling.* TAB. **1002.**

Stems diffuse, and winged as well as the petioles. Tendrils with 2 linear-lanceolate leaflets. Peduncles 2-flowered. Legumes hairy. Seeds rough.

Lathyrus hirsutus, *E. B.* 1255. *Smith* III. 275. *Lindley* 86. *Hooker ed.* 2. 319. *ed.* 3. 323. *Macreight* 59.

Rare, in the southern counties of England, where it is occasionally met with on the borders of cultivated fields, flowering about July. The flowers are of a pale purple, or whitish, except the standard, which is always of a bright crimson. Whole plant more or less hairy, especially the fruit, by which it is distinguished from every other British species. Sometimes cultivated in gardens as a hardy annual. The seeds have an unpleasant flavour and cathartic quality which render them unfit for food.

** *Perennials. Peduncles many-flowered.*

LATHYRUS PRATENSIS. *Meadow Vetchling.* TAB. **1003.**

Stems angular, not winged, climbing. Tendrils with 2 lanceolate, 3-ribbed leaflets. Stipules arrow-shaped, nearly as large as the leaflets. Peduncles mostly many-flowered.

Lathyrus pratensis, *E. B.* 670. *Smith* III. 276. *Lindley* 86. *Hooker ed.* 2. 319. *ed.* 3. 324. *Macreight* 59.

Common in moist meadows and pastures, hedges and bushy places, rising where supported to the height of 3 or 4 feet, otherwise dwarf. Creeping at the base, and propagating fast by small fleshy tubercles. Leaves a little glaucous. Flowers conspicuous, bright golden yellow: they appear in July and August. Legumes almost erect, black, smooth, seldom ripening their seeds.

Cattle are very fond of the herbage, and it has been frequently recommended for cultivation as fodder, but is too sparing in the produce of its seeds to compete with other plants of the order equally eligible to the farmer for that purpose.

LATHYRUS SYLVESTRIS. *Narrow-leaved Everlasting Pea.* TAB. **1004.**

Stem winged, climbing. Tendrils with a pair of linear-lanceolate, acuminate, coriaceous leaflets. Peduncles 4- to 6-flowered.

Lathyrus sylvestris, *E. B.* 805. *Smith* III. 277. *Lindley* 85. *Hooker ed.* 2. 319. *ed.* 3. 324. *Macreight* 59.

Met with climbing on hedges and thickets in various parts of the kingdom, but more frequently in the southern and midland counties of England. Stems 5 or 6 feet long, with broad, foliaceous wings. Leaflets acuminate, 3-ribbed. Flowers large, but of a pale hue, greenish with purple tints and veins. Legumes broad, smooth, tawny when ripe. Whole plant smooth. Flowers about July and August.

An elegant climber, but too nearly allied to the following species, whose flowers are so much more conspicuous, to become its rival as a garden ornament.

LATHYRUS LATIFOLIUS. *Broad-leaved Everlasting Pea.* TAB. **1005.**

Stem winged, climbing. Tendrils with a pair of elliptical, mucronate leaflets. Peduncles many-flowered.

Lathyrus latifolius, *E. B.* 1108. *Smith* III. 277. *Lindley* 85. *Hooker ed.* 2. 320. *ed.* 3. 324. *Macreight* 59.

Long naturalized, if not indigenous, in woods and thickets in many parts of England. Leaves somewhat glaucous; stipules broad; leaflets broadly elliptical, with from 3 to 5 parallel ribs. Flowers larger than in the preceding species, deep crimson, or rose-colour, with darker veins; produced abundantly in July and August.

Few climbers, even of tropical climates, are more beautiful than this, which decorates the garden of the English peasant; and few are so lavish of their beauty under all circumstances. It seems almost indifferent to soil, and sunshine and shade are alike ornamented with the copiousness and brilliancy of its blossoms.

LATHYRUS PALUSTRIS. *Marsh Everlasting Pea. Blue Marsh Vetchling.* TAB. **1006.**

Stem winged, climbing. Tendrils with 2 to 4 pairs of linear-lanceolate, acute leaflets. Peduncles 4- to 6-flowered.

Lathyrus palustris, *E. B.* 169. *Smith* III. 278. *Lindley* 86. *Hooker ed.* 2. 320. *ed.* 3. 324. *Macreight* 59.

Far from frequent in boggy woods and pastures, and chiefly in the midland and eastern counties of England. When supported, the stem rises to the height of 3 or 4 feet. Leaflets glaucous beneath, about 2 inches long. Tendrils 2- or 3-cleft. Flowers bright purplish blue, ornamental. Legumes long, smooth, as is the whole plant. It thrives well in the garden, flowering from the end of June to September.

GENUS CCCLXXX. PISUM. *Pea.*

GEN. CHAR. *Calyx* somewhat foliaceous, the 2 upper segments shortest. *Vexillum* large, reflexed. *Style* compressed, keeled and villous above. *Legume* compressed, oblong, not winged, many-seeded.

A small genus of climbing herbaceous plants, chiefly valuable for their edible seeds. *Pisum sativum* the common Garden Pea, and *P. arvense* the Field or Grey Pea, both originally introduced from the south of Europe, have been long since objects of cultivation. The genus is nearly allied to *Lathyrus* and scarcely separable from it by any absolute feature, the keeled, somewhat triangular style excepted.

PISUM MARITIMUM. *Sea-side Pea.* TAB. **1007.**

Stem angular, procumbent. Stipules arrow-shaped. Petioles flattened on the upper side. Peduncles many-flowered.

Pisum maritimum, *Linn. E.B.* 1046. *Smith* III. 270. *Lindley* 84. *Macreight* 59. Lathyrus pisiformis, *Hooker ed.* 2. 320. *ed.* 3. 324.

A native of the sea-coasts, chiefly in the eastern and southern counties of England. It is reported by some of the old historians (and the legend is credited in Suffolk at the present day) to have sprung up first spontaneously, in the year 1555, upon the rocks between Aldborough and Orford, furnishing a timely relief to the inhabitants during a season of unparalleled scarcity. Some considered its appearance as miraculous, others supposed the seed to have been cast upon the shore from some vessel wrecked there the year previous; but, as its seeds are bitter and unpalatable, it is more probable that the plant had been previously neglected, and became known only when, forced by hunger, famishing thousands were led to seek a food which at any other period they would have despised. Whole herb smooth, of a glaucous hue. Leaves with terminal tendrils: leaflets numerous, alternate, entire, elliptical. Flowers in axillary racemes, large, purple with crimson veins; they come out in July and August. Perennial.

GENUS CCCLXXXI. VICIA. *Vetch.*

GEN. CHAR. *Calyx* with the 2 upper teeth shorter. *Style* filiform, nearly at right angles with the germen; villous on the upper side, and transversely bearded on the lower beneath the stigma. *Legume* oblong, many-seeded.

Climbing herbaceous plants, with abruptly pinnate leaves terminating with tendrils. Flowers various, generally purple, axillary, either racemose on long peduncles or solitary on short ones. The genus is extensive, but chiefly distributed over the temperate and cooler regions of the northern hemisphere, under which parallel several of the species are highly valued in cultivation as affording nutritious food for cattle.

The little tuft of hair beneath the stigma is the most important character of distinction.

* *Peduncles many-flowered.*

VICIA SYLVATICA. *Wood Vetch.* TAB. **1008.**

Stipules crescent-shaped, deeply toothed at the base. Leaflets oval, mucronate. Peduncles many-flowered, longer than the leaves.

Vicia sylvatica, *E. B.* 79. *Smith* III. 279. *Lindley* 84. *Hooker ed.* 2. 320. *ed.* 3. 325. *Macreight* 58.

This elegant climber is met with in various parts of the kingdom, but more frequently in mountainous districts, where it is far from uncommon. The stem climbs among bushes and trees to the length of 5 or 6 feet, developing its long bunches of white flowers, delicately pencilled with blue, about July and August. Leaflets usually opposite, in 6 to 10 pairs, bluntly ovate, but tipped with a small bristle formed by an extension of the midrib beyond the lamina. Legumes pale brown, smooth, lanceolate. Perennial.

VICIA CRACCA. *Tufted Vetch.* TAB. **1009.**

Stipules half arrow-shaped, nearly entire. Leaflets lanceolate, slightly hairy. Peduncles many-flowered, longer than the leaves. Flowers imbricated.

Vicia Cracca, *E. B.* 1168. *Smith* III. 280. *Lindley* 84. *Hooker ed.* 2. 321. *ed.* 3. 325. *Macreight* 58.

Very common in hedges and bushy places, its slender stems climbing to the height of 3 or 4 feet, and producing their elegant crowded racemes of bluish-purple flowers in July and August. Stems very slender, much branched. Leaflets numerous, more or less clothed with silky hairs. Legumes pendulous, smooth, light brown. Seeds globular, black. Perennial.

** *Flowers axillary, mostly subsessile.*

VICIA SATIVA. *Common Vetch.* TAB. **1010.**

Stipules toothed, with a black or discoloured depression on the under side. Leaflets elliptic-oblong; lower ones retuse. Flowers sessile, generally in pairs. Seeds smooth.

Vicia sativa, *E. B.* 334. *Smith* III. 281. *Lindley* 84. *Hooker ed.* 2. 321. *ed.* 3. 325. *Macreight* 58.

Frequent on cultivated ground, but probably not indigenous, having long been sown as an early fodder for cattle. A very variable plant, but easily known by the depressed mark on the stipules. Stems weak, about a foot high. Leaflets from 2 to 6 pairs. Flowers purple or red. Legumes downy, horizontal. Annual. Flowers in June.

Young observes, "The *V. sativa* maintains more stock than any other plant whatsoever. Upon an acre, Davies kept 4 horses in much better condition than upon 5 acres of grass; and upon 8 acres he maintained 12 horses and 5 cows for 3 months. No artificial food is equal to this excellent plant." The seeds are the food of pigeons.

Var. *β*. Leaflets lanceolate, subretuse, mucronulate; upper ones linear. Flowers subsolitary.

V. angustifolia, *E. B. Supp.* 2614. *Smith* III. 282. *Lindley* 84. *Hooker ed.* 2. 321. *ed.* 3. 325. Tab. 1010*.

Var. *γ*. Leaflets linear, lower ones obcordate. Flowers subsolitary.

V. Bobartii, *E. B. Supp.* 2708. Tab. 1010**.

These two plants cannot be considered specifically distinct from *V. sativa* when duly compared with the other variations in habit to which the species is liable. The orbicular, smooth seeds, and discoloured depression upon the stipules, are characters in common.

VICIA LATHYROIDES. *Spring Vetch.* TAB. **1011.**

Stems procumbent. Stipules entire, without a depressed spot. Leaflets mostly 3 pairs, the lowermost inversely heart-shaped. Flowers sessile, solitary. Legumes erect, smooth. Seeds cubic, tubercled.

Vicia lathyroides, *E. B.* 30. *Smith* III. 283. *Lindley* 84. *Hooker ed.* 2. 321. *ed.* 3. 325. *Macreight* 58.

Not unfrequent on road-sides, banks, and dry pastures. Stems numerous, seldom more than 4 or 5 inches long. Leaves with mostly only the rudiment of a tendril. Flowers small, purple; they appear in April and May. It has often been confounded with starved varieties of the last species, especially *V. angustifolia*; but the want of tendrils, spotless stipules, and cubic, dotted seeds, are characters that sufficiently indicate its being a distinct species. Annual. Flowers sometimes white.

VICIA LUTEA. *Rough-podded yellow Vetch.* TAB. **1012.**

Stems diffuse. Stipules ovate, pointed, coloured. Flowers sessile, solitary; vexillum smooth. Legumes reflexed, hairy.

Vicia lutea, *E. B.* 481. *Smith* III. 284. *Lindley* 85. *Hooker ed.* 2. 321. *ed.* 3. 326. *Macreight* 58.

A native of rocky and stony places, chiefly near the sea. The plant varies much in luxuriance, the weak, spreading stems extending from a few inches to 1 or 2 feet in length. Leaflets more or less hairy, especially beneath, elliptico-lanceolate; 6 to 8 pairs on a petiole. Flowers rather large, pale yellow, generally streaked and tinged with purple. Legumes compressed, 6- or 8-seeded. Perennial. Flowers in June and July.

VICIA HYBRIDA. *Hairy-flowered yellow Vetch.* TAB. **1013.**

Stems ascending. Leaflets abrupt. Stipules ovate, unstained. Flowers solitary, nearly sessile. Standard hairy. Legumes reflexed, hairy.

Vicia hybrida, *E. B.* 482. *Smith* III. 284. *Lindley* 85. *Hooker ed.* 2. 322. *ed.* 3. 326. *Macreight* 58.

Rare. On Glastonbury Tor-hill, Somersetshire, and at Swan-pool, near Lincoln. Nearly resembling the last species, from which it is chiefly distinguished by the hairy standard of the blossom. Stems tending to erect. Leaflets variable, but generally blunter than those of *V. lutea*; sometimes emarginate at the apex, with the middle-rib extending as a short awn. Stipules green. The yellow flowers, more or less veined with purple, appear in June and July. Perennial.

VICIA LÆVIGATA. *Smooth-podded Vetch.* TAB. **1014.**

Stems ascending. Leaflets bluntish, very smooth. Stipules cloven,

unstained. Flowers solitary, nearly sessile. Legumes reflexed, smooth.
Vicia lævigata, *E. B.* 483. *Smith* III. 285. *Lindley* 85. *Hooker ed.* 2. 322. *ed.* 3. 326. *Macreight* 58.

Very rare. Hitherto found only on the pebbly shore of Weymouth, Dorsetshire. Stems 6 to 12 inches high, nearly upright. Leaves and whole plant smooth. Petals generally pale blue or whitish, but sometimes yellow. Legumes always smooth; by which feature chiefly it is distinguished from *V. lutea* and *V. hybrida.* The habit of all three is so closely allied that they ought perhaps rather to be considered varieties than distinct species. The seeds have a bitter, astringent flavour. Perennial. Flowers from July to September.

VICIA SEPIUM. *Bush Vetch.* TAB. **1015.**

Stem climbing. Leaflets ovate, obtuse; gradually smaller upwards. Flowers about 4 together, in short axillary clusters. Legumes upright, smooth.
Vicia sepium, *E. B.* 1515. *Smith* III. 286. *Lindley* 85. *Hooker ed.* 2. 322. *ed.* 3. 326. *Macreight* 58.

Common in woods, thickets, and hedges, rising to the height of 1 or 2 feet, and flowering from May to July. Leaflets slightly hairy, gradually smaller towards the end of the petiole. Flowers 3 or 4 together on a short axillary peduncle. Corolla bluish-purple. Legumes brown and erect when ripe; seldom more than 2 together. Perennial.

VICIA BITHYNICA. *Rough-podded purple Vetch.* TAB. **1016.**

Stems climbing. Leaflets 2 pairs, lanceolate. Stipules toothed laterally. Flowers stalked, mostly solitary. Legumes upright, rough.
Vicia Bithynica, *E. B.* 1842. *Smith* III. 287. *Lindley* 85. *Hooker ed.* 2. 322. *ed.* 3. 326. Lathyrus Bithynicus, *De Cand. Macreight* 60.

Rare. Chiefly met with in bushy places near the sea, in Dorsetshire and Hampshire, and about Doncaster, Yorkshire. Leaflets of the lower leaves oval or elliptical lance-shaped; those of the upper linear-lanceolate. Standard fine purple; wings and keel whitish. Perennial. Flowers in July and August.

GENUS CCCLXXXII. ERVUM. *Tare.*

GEN. CHAR. *Calyx* with linear, acute segments, as long as the corolla. *Legume* oblong, 2- to 4-seeded. *Stigma* capitate, downy all over.

A small genus of annual climbing plants, belonging to the eastern hemisphere. They have small purplish or white flowers. Chiefly known as troublesome weeds in arable land; but 2 species, *E. Lens*, and *E. Ervilia*, have long been cultivated in Asia and the south of Europe. Their seeds, called Lentils, are esteemed highly nutritious; and the antiquity of their application as food must be high indeed, as it is recorded in Scripture that the "*red pottage*" for which Esau sold his birthright was composed of them.

ERVUM TETRASPERMUM. *Smooth-podded Tare.* TAB. **1017**

Leaflets oblong, bluntish. Flowers mostly in pairs. Legumes smooth, 4-seeded.

Ervum tetraspermum, *E. B.* 1223. *Smith* III. 288. *Lindley* 83. *Hooker ed.* 2. 322. *ed.* 3. 326. *Macreight* 58.

A common plant in moist corn-fields, hedges, and thickets. Stem very slender, climbing upon other plants by means of its tendrils; hairy as well as the leaves. Flowers in pairs, on long axillary peduncles, pale blue or purple, drooping. Legumes oblong, pendulous, quite smooth, seldom more than 4-seeded. Flowers in June and July. Annual.

ERVUM HIRSUTUM. *Hairy-podded Tare.* TAB. **1018.**

Leaflets abrupt. Peduncles many-flowered. Legumes hairy, 2-seeded.

Ervum hirsutum, *E. B.* 970. *Smith* III. 289. *Lindley* 83. *Hooker ed.* 2. 322. *ed.* 3. 326. *Macreight* 58.

More frequent than the last in similar situations, and more destructive as a weed, especially among corn, which it strangles by its numerous wiry tendrils. Stems 2 or 3 feet long, branched below. Leaflets numerous, elliptical, notched at the end. Flowers from 5 to 7 on each peduncle, very small, bluish-white. Legumes short, pendulous, containing 2 prominent seeds. Annual. Flowers in June and July.

†† *Style glabrous.*

GENUS CCCLXXXIII. ORNITHOPUS. *Bird's-foot.*

GEN. CHAR. *Calyx* bracteated. *Keel* very small. *Legume* somewhat cylindrical, curved, consisting of many 1-seeded, indehiscent joints.

A few annual plants, with hairy pinnate leaves and small rose-coloured, white, or yellow flowers, compose this genus. The bunches of jointed seed-vessels are not unaptly compared to a bird's foot.

ORNITHOPUS PERPUSILLUS. *Bird's-foot.* TAB. **1019.**

Leaves pinnated, with from 6 to 9 pairs of oval leaflets and a terminal one. Flowers capitate, accompanied by a leaf. Legumes curved upwards.

Ornithopus perpusillus, *E. B.* 369. *Smith* III. 290. *Lindley* 87. *Hooker ed.* 2. 323. *ed.* 3. 328. *Macreight* 56.

Frequent throughout England, on sandy or gravelly pastures and heaths. Stems 2 to 6 inches long, branched, more or less spreading. Stipules very small. Flowers sessile, tufted. Vexillum and wings elegantly striped with red and white. Keel greenish. Annual. Flowers in June.

GENUS CCCLXXXIV. HIPPOCREPIS. *Horse-shoe Vetch.*

GEN. CHAR. *Keel* 2-lobed. *Legume* compressed, submembranaceous, of several joints, each containing 1 seed, and curved like a horse-shoe; whence the upper edge of the legume presents several deep, rounded notches.

Herbaceous plants or small shrubs, natives of Europe. They have pinnate leaves, and yellow flowers variously disposed.

HIPPOCREPIS COMOSA. *Tufted Horse-shoe Vetch.* TAB. **1020.**

Flowers umbellate, on long axillary peduncles. Legumes rough; their joints neither dilated nor bordered.

Hippocrepis comosa, *E. B.* 31. *Smith* III. 291. *Lindley* 88. *Hooker ed.* 2. 324. *ed.* 3. 328. *Macreight* 57.

Frequent on chalky hills and banks. Stem branched and woody at the base, procumbent, 4 to 6 inches long. Leaves with 4 or 5 pairs of leaflets and a terminal one. Flowers pale yellow, streaked with brown, resembling those of *Lotus corniculatus*; but the plant is well distinguished by its singularly formed legume. Perennial. Flowers from May to August.

GENUS CCCLXXXV. ONOBRYCHIS. *Saint-foin.*

GEN. CHAR. *Wings* short. *Keel* obliquely truncated. *Legume* sessile, compressed, coriaceous, crested with prickles, or winged; 1-seeded, indehiscent.

Herbs with pinnated leaves, and long axillary peduncles, terminating in spikes of red, or white, rarely yellow flowers. Chiefly European.

ONOBRYCHIS SATIVA. *Common Saint-foin.* TAB. **1021.**

Stem elongated. Leaves pinnated, with a terminal leaflet, nearly smooth. Wings of the corolla not longer than the calyx. Legumes toothed at the margin and ribs.

Hedysarum Onobrychis, *Linn. E. B.* 96. *Smith* III. 292. Onobrychis sativa, *De Cand.* *Hooker ed.* 2. 324. *ed.* 3. 328. *Lindley* 88. *Macreight* 57.

A native of dry chalky hills and open downs in various parts of England. Stems 1 to 2 feet high, branched. Flowers crimson, variegated with purple and white, and deeper veins. Perennial. Flowers in June and July.

No plant is better liked by cattle, and it is highly valuable to the farmer in dry, and especially in chalky districts, growing luxuriantly where grass or corn would yield but a small produce.

GENUS CCCLXXXVI. ASTRAGALUS. *Milk-Vetch.*

GEN. CHAR. *Keel* of the corolla obtuse. *Legume* 2-celled, or half 2-celled; cells formed by the inflexed margin of the lower suture.

The genus, which is very extensive, containing about 250 species, consists chiefly of herbaceous plants, a few species only being small shrubs. Leaves pinnate. Flowers purple, pale yellow, or white. Natives of the northern hemisphere in both continents. The gum called Tragacanth is the produce of *A. verus.*

ASTRAGALUS GLYCYPHYLLOS. *Sweet Milk-Vetch. Wild Liquorice.* TAB. **1022.**

Stem prostrate. Leaves longer than the flower-stalks; leaflets oval. Legumes somewhat triangular, curved, sessile, smooth.

Astragalus glycyphyllos, *E. B.* 203. *Smith* III. 294. *Lindley* 78. *Hooker ed.* 2. 323. *ed.* 3. 327. *Macreight* 56.

Not common, but met with in several parts of England in woods, thickets, and on the borders of fields; chiefly in chalky or gravelly soils. Rare in Scotland. Stems 2 to 3 feet long, prostrate among grass and bushes, angular and striated. Leaves pinnate, with a terminal leaflet. Stipules oval-spear-shaped, acute. Flowers spiked, at the extremities of long axillary peduncles; dingy yellow. Legumes about an inch long, crescent-shaped, reddish, inflated, many-seeded. Perennial. Flowers about July.

The leaves when chewed have a sweetish taste, somewhat like liquorice, which soon changes to a nauseous bitter.

ASTRAGALUS HYPOGLOTTIS. *Purple Mountain Milk-Vetch.* TAB. **1023.**

Stem prostrate. Leaflets blunt, slightly emarginate. Flowers in round heads. Legumes erect, ovate, hairy, deeply channeled along the back, compressed; their cells 1-seeded.

Astragalus hypoglottis, *E. B.* 274. *Smith* III. 294. *Lindley* 78. *Hooker ed.* 2. 323. *ed.* 3. 327. *Macreight* 56.

This pretty species abounds in some dry, chalky or gravelly, and sub-alpine pastures; chiefly in the eastern parts of England and Scotland. Whole plant hairy. Stems 2 to 6 inches long. Leaves pinnate, with numerous elliptic-ovate, bluntish leaflets, gradually lessening to the terminal one, which is usually very small. Peduncles erect, bearing large heads of bluish-purple flowers. Legumes ovate, acuminate, hooked at the point. Petals rarely white. Perennial. Flowers in July.

ASTRAGALUS ALPINUS. *Alpine Milk-Vetch.* TAB. **1023***.

Stem ascending. Leaflets elliptical. Stipules ovate, free. Legumes elliptical, stipitate, pendulous, clothed with black hairs.

Astragalus alpinus, *E. B. Supp.* 2717. *Hooker ed.* 3. 327. Phaca astragalina, *DeCand. Macreight* 56.

Discovered in Scotland, by Dr. Graham and others, in 1831, growing at the head of the Glen of the Dole, Clova. Stems very slender, much branched, diffuse. Racemes few-flowered. Flowers drooping, white, tinged and tipped with blue or purple. Whole herb pubescent. Perennial. Flowers in July.

GENUS CCCLXXXVII. OXYTROPIS. *Oxytropis.*

GEN. CHAR. *Keel* terminating in an exserted point. *Legume* more or less perfectly 2-celled; cells formed by the inflexed margin of the upper suture.

Perennial herbs, chiefly belonging to the colder parts of the northern hemisphere. They resemble those of the last genus in habit, and were formerly confounded with them; but the pointed keel of the corolla and the different structure of the legume sufficiently distinguish the genus from *Astragalus*. Leaves pinnated. Flowers purple, white, or cream-colour; spikes axillary or scaped.

OXYTROPIS URALENSIS. *Hairy Mountain Oxytropis.* TAB. **1024**.

Silky. Stemless. Scape erect, longer than the leaves. Legumes erect, ovate, tumid, hairy, pointed with the persistent style.

Astragalus Uralensis, *Linn. E. B.* 466. *Smith* III. 295. Oxytropis Uralensis, *DeCand. Hooker ed.* 2. 323. *ed.* 3. 327. *Lindley* 79. *Macreight* 56.

A native of dry mountain-pastures in several parts of Scotland. Leaves forming radical tufts; leaflets 8 to 12 pairs with a terminal one, ovate or lanceolate, acute. Scape simple, 2 to 6 inches high, terminating in an almost capitate spike of handsome purple flowers, generally few in number. Legumes erect, inflated, terminating in a sharp oblique point. Whole herb clothed with a silky pubescence. Perennial. Flowers in June and July.

OXYTROPIS CAMPESTRIS. *Yellowish Mountain Oxytropis.* TAB. **1025.**

Somewhat silky. Stemless. Scape ascending, about as long as the leaves. Legumes erect, ovate, tumid, pubescent, semibilocular.

Astragalus campestris, *Linn. E. B.* 2522. *Smith* III. 296. Oxytropis campestris, *DeCand. Hooker ed.* 2. 323. *ed.* 3. 328. *Lindley* 79. *Macreight* 56.

Grows upon high rocks, near the White Water, at the head of Clova, Angus-shire, where it was discovered in the summer of 1812 by Mr. G. Don. Leaves tufted; leaflets elliptic-lanceolate, acute, more or less silky. Flowers in a short capitate spike, pale yellow, with a purple tinge on the keel and wings. Legume shorter and more inflated than in *A. Uralensis*; covered with short, spreading hairs.

GENUS CCCLXXXVIII. MELILOTUS. *Melilot.*

GEN. CHAR. *Petals* distinct, deciduous. *Keel* simple. *Wings* shorter than the vexillum. *Legume* longer than the calyx, coriaceous, 1- or few-seeded, scarcely dehiscent.

Herbaceous plants, with ternate leaves, stipules attached to the petiole, and yellow or white racemose flowers. Chiefly indigenous to Europe and the northern parts of Asia.

The genus was originally combined with *Trifolium*. *M. arborea*, the largest of the species, growing to the height of 15 feet, is a shrub; the rest are chiefly annual or biennial herbs.

MELILOTUS OFFICINALIS. *Common yellow Melilot.* TAB. **1026.**

Stem erect. Stipules awl-shaped. Racemes loose, unilateral. Corolla more than twice as long as the calyx. Petals nearly equal in length. Legumes 2-seeded, ovate, acute, transversely wrinkled.

Trifolium Melilotus officinalis, *Linn.* T. officinale, *E. B.* 1340. *Smith* III. 297. Melilotus officinalis, *Hooker ed.* 2. 324. *ed.* 3. 328. *Lindley* 79. *Macreight* 53.

Frequent in bushy places, on the borders of fields, and sometimes among corn, especially where the soil is argillaceous. Stem erect, branched, 2 to 3 feet high. Leaflets obovate, serrated, smooth, sometimes 5 together. Flowers yellow, in long axillary, pedunculated, unilateral racemes. Annual. Flowers in June and July.

This plant, once valued in English agriculture, is often sown for fodder in other parts of Europe. Possibly climate may produce a difference, but here cattle are certainly not fond of it. The flavour of it is bitter and acrid, and when dry it has a very strong scent, somewhat between that of new-mown hay and bitter almonds. The peculiar flavour of the Gruyere cheese is due to the seeds and flowers of the Melilot, which are bruised with the curd. The odoriferous principle is the same with that of the Tonquin or Tonka Bean, *Dipterix odorata.*

MELILOTUS LEUCANTHA. *White Melilot.* TAB. **1026*.**

Stem erect. Racemes loose, unilateral. Corolla twice as long as the calyx. Keel and wings shorter than the vexillum. Legumes 2-seeded, ovate, wrinkled.

Melilotus leucantha, *E. B. Supp.* 2689. *Hooker ed.* 2. 324. *ed.* 3. 329. *Macreight* 53. Trifolium officinale, *β. Linn.*

The white-flowered Melilot, sometimes considered a variety of *M. officinalis,* is frequent on the continent of Europe and in the United States of America; but although recently met with in several parts of England and in Scotland, seems to have been overlooked by our botanists, or at least was not admitted into any British Flora until its publication in the Supplement to the first edition of the present work. Its claim to the rank of a distinct species is doubtful. Annual, or at most biennial. Flowers in July and August.

GENUS CCCLXXXIX. TRIFOLIUM. *Trefoil.*

GEN. CHAR. *Petals* mostly combined by their claws, persistent. *Keel* shorter than the wings and vexillum. *Legume* shorter than the calyx which incloses it (except in *T. ornithopodioides*), 1- or more seeded, scarcely dehiscent.

This extensive genus of herbaceous plants, so well charactered by general habit, is distributed profusely throughout the temperate and cooler countries of the northern hemisphere, furnishing no inconsiderable proportion of the vegetation of the open fields, heaths, and pastures, in all soils and situations.

Leaves mostly ternate, with stipules adhering to the petiole. Flowers in heads, or densely spiked, bracteate; purple, pale yellow, or white.

* *Legumes with several seeds.*

TRIFOLIUM ORNITHOPODIOIDES. *Bird's-foot Trefoil.* TAB. **1027.**

Stems procumbent. Leaflets obcordate, toothed at the extremity. Flowers mostly 3 together. Legumes naked, 8-seeded, twice as long as the calyx.

Trifolium ornithopodioides, *Linn. E. B.* 1047. *Smith* III. 298. *Hooker ed.* 2. 324. *ed.* 3. 329. Trigonella ornithopodioides, *De Cand. Lindley* 82. *Macreight* 53.

Not unfrequent on barren sandy heaths, especially in the eastern counties of England toward the sea-coast. An annual species, with spreading stems 3 to 5 inches long, seldom branched. Peduncles axillary, 2- to 3-flowered. Flowers small, reddish; petals with long claws. Legumes large compared with the flowers; about twice as long as the calyx; oblong, blunt, transversely rugged. The length of the legume, numerous seeds, and general habit of this plant distinguish it from every other native species of the genus, but we cannot but accord with Dr. Hooker in considering it no nearer home with *Trigonella*, to which it is referred by some botanists. Flowers in June and July.

TRIFOLIUM REPENS. *White Trefoil. Dutch Clover.* TAB. **1028.**

Stems creeping. Leaflets obcordate, serrulate. Flowers in globose heads. Legumes inclosed by the unequally-toothed calyx, 4-seeded.

Trifolium repens, *E. B.* 1769. *Smith* III. 299. *Lindley* 79. *Hooker ed.* 2. 325. *ed.* 3. 329. *Macreight* 54.

Frequent in meadows and pastures throughout the kingdom, where it flowers from May to September. The stems creep along the ground to a considerable length, rooting occasionally and branching from the joints. Leaves on long, erect petioles; the leaflets inversely heart-shaped, generally with a more or less conspicuous dark spot at their base, bordered by a white line. Peduncles longer than the leaves. Flowers on short pedicels, forming globular umbels, white or cream-colour; pendulous in decay. Legumes oblong, smooth, invested with the withered brown corollas. Perennial. It varies greatly in habit and foliage in different soils; a rich and rather moist one is most favourable to its development.

A valuable plant to the agriculturist, as forming an excellent bottom for pastures, and much liked by cattle.

** *Legumes* 1- *or* 2-*seeded. Calyx not inflated, generally hairy. Standard deciduous or unaltered.*

TRIFOLIUM SUBTERRANEUM. *Subterraneous Trefoil.* TAB. **1029.**

Heads hairy, of about 4 flowers; "at length deflexed and throwing out from their centre thick fibres, palmated at the extremity (abortive calyces), which are closely bent down over the reflexed fruit."

Trifolium subterraneum, *E. B.* 1048. *Smith* III. 300. *Lindley* 80. *Hooker ed.* 2. 325. *ed.* 3. 329. *Macreight* 54.

Common in dry, gravelly, and sandy pastures. Stems prostrate, almost concealed by the broad, sheathing stipules. Leaflets obcordate, entire, hairy. Peduncles 3- or 4-flowered, erect at first, afterwards elongating and curving downwards, so as to bring the ripening fruit close to the ground; several short, thick fibres arise from its apex, each terminating in 5 palmated teeth, which become recurved and rigid, covering the fruit, and assist to bury it in the loose soil. The number and proportions of the teeth indicate, as suggested by De Candolle, that the fibres are so many abortive calyces. Flowers very long and slender, cream-coloured. Calyx-teeth long, hairy. Petals partially deciduous. Legume thin, ovate or globular, 1-seeded. Annual. Flowers in May.

The habit of the plant is nearly that of *T. ornithopodioides*, but a slight inspection is sufficient to distinguish between the two species.

TRIFOLIUM OCHROLEUCUM. *Sulphur-coloured Trefoil.* TAB. **1030.**

Stem ascending, downy. Leaflets of the lower leaves inversely heart-shaped; those of the upper elliptic. Flowers in a solitary, terminal, hairy head. Teeth of the calyx subulate; the lower one very long.

Trifolium ochroleucum, *E. B.* 1224. *Smith* III. 301. *Lindley* 80. *Hooker ed.* 2. 325. *ed.* 3. 330. *Macreight* 54.

Far from unfrequent in meadows, pastures, and on way-sides in the eastern and midland counties of England. The slender, round, hairy stems rise to the height of a foot or 18 inches. Leaves remote, on long petioles; the 2 uppermost mostly opposite. Stipules large, subulate, ribbed, embracing the stem. Heads large, hemispherical while in flower, oval in seed. Corolla buff, or cream-coloured, brown in decay, persistent. Perennial. Flowers in July and August.

TRIFOLIUM PRATENSE. *Purple Clover. Honeysuckle Trefoil.* TAB. **1031.**

Stems ascending. Stipules ovate, bristle-pointed. Heads ovate, dense. Calyx hairy; 4 of its teeth equal, the lower one longer. Petals unequal.

Trifolium pratense, *E. B.* 1770. *Smith* III. 302. *Lindley* 80. *Hooker ed.* 2. 325. *ed.* 3. 330. *Macreight* 54.

Common in meadows and pastures, but more certainly wild on calcareous hills. Stems about a foot high, branched. Leaflets elliptical, more or less acute, or obcordate; generally with a pale lunulate spot toward the base. Lower tooth of the calyx about half as long as the tube of the corolla. Flowers produced throughout the summer, reddish-purple. Perennial.

This is the common clover of our agriculturists, so highly valued as a nutritious fodder for cattle.

TRIFOLIUM MEDIUM. *Zigzag Trefoil.* TAB. **1032.**

Stems branched, zigzag. Leaflets elliptical. Stipules tapering, converging. Heads lax, subglobose, solitary, terminal, 2 upper teeth of the calyx rather shorter. Petals nearly equal.

Trifolium medium, *E. B.* 190. *Smith* III. 302. *Lindley* 80. *Hooker ed.* 2. 326. *ed.* 3. 330. *Macreight* 54.

Frequent in dry and rather elevated pastures. The zigzag stems, spotless leaves, and larger and less compact heads of flowers distinguish this from *T. pratense.* Corolla deep purple. Perennial. Flowers in July.

Less valuable as a crop than the last species, but "better fitted for pasture on light soils."

TRIFOLIUM MARITIMUM. *Teasel-headed Trefoil.* TAB. **1033.**

Stems ascending. Leaflets oblong-obovate. Stipules lanceolate, acuminate, erect. Heads globose or ovate, somewhat hairy. Calyx-teeth broad, rigid, spreading; dilated after flowering.

Trifolium maritimum, *E. B.* 220. *Smith* III. 303. *Lindley* 80. *Hooker ed.* 2. 326. *ed.* 3. 330. *Macreight* 54. T. stellatum, *Hudson.* Not of Linnæus.

Not unfrequent in salt marshes and meadows near the sea, on the eastern and southern coasts of England, from Norfolk to Somersetshire. Stems branched, rather spreading than ascending. Leaflets narrow, oval, obtuse, dark green. Heads of flowers nearly globular. Calyx-teeth a little unequal; becoming more so, and greatly enlarged and spreading after flowering. Corolla pale red, or purple. Annual. Flowers in June and July.

TRIFOLIUM STELLATUM. *Starry-headed Trefoil.* TAB. **1034.**

Stems spreading. Leaflets inversely heart-shaped, toothed. Stipules broadly ovate, ribbed, crenated. Heads terminal, roundish, hairy. Calyx-teeth setaceous, longer than the corolla; dilated after flowering, leafy, veined, spreading, its tube closed with hairs.

Trifolium stellatum, *Linn.* *E. B.* 1545. *Smith* III. 304. *Lindley* 80. *Hooker ed.* 2. 326. *ed.* 3. 331. *Macreight* 54.

Abundant between the sea and Shoreham harbour, Sussex, where it was discovered by Mr. W. Borrer, on the 30th July 1804, its single locality inducing the idea of its having been introduced in ballast by some vessel from the south of Europe. A singular but elegant little plant, prominently distinguished by its long-toothed, hairy calyces, and their remarkable expansion after flowering. Orifice of the expanded calyx white, surrounded by a red circle. Petals pale rose-colour, or whitish. Annual. Flowers in July and August.

TRIFOLIUM ARVENSE. *Hare's-foot Trefoil.* TAB. **1035.**

Stems erect, branched. Leaflets linear-obovate. Stipules ovate, acuminate. Heads nearly cylindrical, hairy, soft. Calyx-teeth longer than the corolla, permanently setaceous.

Trifolium arvense, *E. B.* 944. *Smith* III. 305. *Lindley* 80. *Hooker ed.* 2. 326. *ed.* 3. 331. *Macreight* 54.

A common plant in very barren, sandy fields. Stem 6 inches to a foot high, rigid, wiry. Stipules reddish, tapering to a bristle-like point. Corolla very much shorter than the bristly teeth of the calyx and almost concealed by them; white or pale purple. The long, cylindrical, bristly heads, somewhat resemble at a distance the spikes of a grass. Annual. Flowers in July and August.

TRIFOLIUM SCABRUM. *Rough Trefoil.* TAB. **1036.**

Stems procumbent. Leaflets obcordate, serrulate. Heads sessile, ovate, very rigid in fruit. Calyx-teeth unequal, subulate, 1-ribbed, finally recurved.

Trifolium scabrum, *E. B.* 903. *Smith* III. 306. *Lindley* 80. *Hooker ed.* 2. 326. *ed.* 3. 331. *Macreight* 54.

Rather frequent than otherwise in dry, sandy or chalky fields, especially towards the sea-shore. A small, spreading plant, with rigid, hairy stems, deeply veined leaflets, and many sessile, roundish-ovate heads of whitish or pale blush-coloured flowers. Annual. Flowers in May and June.

TRIFOLIUM GLOMERATUM. *Smooth, round-headed Trefoil.* TAB. **1037.**

Stems prostrate. Leaflets obcordate, toothed. Heads globose, sessile, smooth. Calyx-teeth ovate, very acute, veiny; finally reflexed.

Trifolium glomeratum, *E. B.* 1063. *Smith* III. 307. *Lindley* 81. *Hooker ed.* 2. 327. *ed.* 3. 331. *Macreight* 54.

Abundant on gravelly heaths and dry pastures in the eastern and southern counties of England. Whole plant smooth. Leaflets often with a white or yellowish spot towards the base. Very distinct from *T. scabrum*, although it be difficult to assign any very positive character of difference. The present species is much less rigid, has rounder heads, and the teeth of the calyx broader, and more foliaceous and spreading. Flowers pale purple or rose-coloured; produced in June and July. Annual.

TRIFOLIUM STRIATUM. *Soft knotted Trefoil.* TAB. **1038.**

Downy. Stems ascending. Leaflets obcordate, serrulate above. Heads ovate, subsolitary, sessile. Calyx elliptical, striated, hairy, very rigid; the teeth unequal, straight, bristle-shaped.

Trifolium striatum, *E. B.* 1843. *Smith* III. 307. *Lindley* 81. *Hooker ed.* 2. 327. *ed.* 3. 332. *Macreight* 54.

Common in dry, sandy fields and pastures. Whole plant soft to the touch owing to a downy pubescence. Stems 3 to 6 inches long, often procumbent. Stipules ribbed, somewhat membranaceous. Calyx oval, a little swollen; with 10 deep furrows, and 5 green, almost setaceous, fringed teeth, lengthened out after flowering, but not expanding. Corolla pale rose-colour, scarcely longer than the calyx. Annual. Flowers in June.

TRIFOLIUM SUFFOCATUM. *Suffocated Trefoil.* TAB. **1039.**

Stems spreading. Heads sessile, lateral, roundish. Petals shorter than the membranaceous, faintly striated calyx. Calyx-teeth lanceolate, acute, recurved. Legumes 2-seeded.

Trifolium suffocatum, *E. B.* 1049. *Smith* III. 299. *Lindley* 79. *Hooker ed.* 2. 327. *ed.* 3. 331. *Macreight* 54.

Grows in loose sand upon the sea-shore, beneath which its stem and flowers are often entirely buried, the leaves only peeping above the surface. Stems 3 or 4 inches long. Leaves with long petioles.

Stipules membranaceous. Flowers very small, forming dense, sessile heads. Corolla always closed, rose-coloured where exposed, when buried in the sand white. Legume containing the rudiments of several seeds, 2 of which only become ordinarily perfect. Annual. Flowers in June and July. It may be esteemed as one of the rarer species of indigenous plants.

*** *Calyx of the fruit inflated, bladdery. Standard deciduous.*

TRIFOLIUM FRAGIFERUM. *Strawberry-headed Trefoil.* TAB. **1040.**

Stems creeping. Leaflets obcordate, serrated. Heads globose, on long lateral peduncles. Calyx inflated after flowering, membranaceous, deflexed, with the 2 upper teeth prominent.

Trifolium fragiferum, *E. B.* 1050. *Smith* III. 308. *Lindley* 81. *Hooker ed.* 2. 327. *ed.* 3. 332. *Macreight* 54.

Not uncommon in moist meadows and pastures, or on wet heaths and river-sides. Stems creeping widely, rooting at the nodes. Peduncles erect, 3 to 6 inches high. Flowers very small, purplish-red. Heads when in fruit often an inch in diameter, the inflated calyces being more or less coloured, giving them at first sight the appearance of strawberries. Legumes concealed by the contracted mouth of the calyx, 2-seeded. Perennial. Flowers in July and August.

In habit and foliage, this curious species nearly resembles *T. repens,* and is scarcely distinguishable unless in bloom or fruit.

TRIFOLIUM RESUPINATUM. *Reversed Trefoil.* TAB. **1040***.

Stem prostrate. Leaflets obovate. Heads hemispherical, subsequently globose; on peduncles at first only about as long as the petioles. Corolla resupinate. Calyx after flowering inflated, membranaceous, veined, hairy, acute; two of the teeth longer, patent.

Trifolium resupinatum, *E. B. Supp.* 2789. *Hooker ed.* 2. 327. *ed.* 3. 332. *Macreight* 54.

Meadows near Bristol only. It is a native of Germany and the adjoining countries of Europe, and, like *T. stellatum,* has been doubtless introduced among ballast at the port near which it is now found. The corolla being resupinate, in other words, the flowers curved so that the vexillum is inferior or turned downwards, is the distinctive character of the species, although scarcely expressed in our figure. Annual. The pale purple or reddish flowers are produced about July.

**** *Standard persistent, deflexed, dry, enclosing the fruit. (Flowers yellow.)*

TRIFOLIUM PROCUMBENS. *Hop Trefoil.* TAB. **1041.**

Stems procumbent (or erect). Leaves petiolate; leaflets obcordate, central one stalked. Heads broadly ovate, many-flowered. Vexillum finally deflexed, permanent, furrowed.

Trifolium procumbens, *E. B.* 945. *Smith* III. 309. *Lindley* 81. *Hooker ed.* 2. 328. *ed.* 3. 332. *Macreight* 54.

β. Stems erect. T. campestre, *DeCand.*

Frequent in dry pastures and on the borders of fields, chiefly in a gravelly or sandy soil. Stems when procumbent spreading widely. Leaflets smooth, notched. Flowers lemon-coloured, changing to brown in decay; the vexillum becoming membranaceous and striated, and deflexed over the small, pointed legume. The dense, many-flowered heads, resembling hops when in fruit, at once distinguish this from the next species, and no other native *Trifolium* has yellow flowers. Annual. Flowers in June and July.

TRIFOLIUM FILIFORME. *Lesser Yellow Trefoil.* TAB. **1042.**

Stems procumbent. Leaves nearly sessile; leaflets obcordate, the central one mostly on a short stalk. Heads few-flowered, lax. Vexillum finally deflexed, permanent, nearly smooth.

Trifolium filiforme, *Hooker ed.* 2. 328. *ed.* 3. 333. *Macreight* 54.

α. major. Larger, heads many- or several-flowered, peduncles much longer than the leaves.

Trifolium minus, *E. B.* 1256. *Smith* III. 310. *Lindley* 81.

β. microphyllum. Smaller, heads 2- to 4-flowered, peduncles scarcely longer than the leaves.

Trifolium filiforme, *E. B.* 1257. *Smith* III. 310. *Lindley* 81. Tab. **1042***.

Common on dry pastures and road-sides, varying greatly in luxuriance according to soil and situation, so as to exhibit various intermediate states between the above varieties: hence we accord with Dr. Hooker in considering them merely extreme forms of the same species. Corolla light yellow, pale brown or whitish when covering the fruit. Annual. Flowers in June and July.

GENUS CCCXC. LOTUS. *Bird's-foot Trefoil.*

GEN. CHAR. Wings of the corolla about the length of the vexillum. *Keel* beaked. *Style* straight, awl-shaped. *Legume* cylindrical or compressed; somewhat spongy within, and imperfectly many-celled.

Herbaceous plants or undershrubs, almost exclusively indigenous to the eastern hemisphere. They have ternate leaves, with foliaceous stipules, axillary peduncles, and yellow, rarely white or pink flowers.

These plants approach the Clovers in properties, but are not much cultivated. The pods of *L. edulis* and 2 or 3 other species are esteemed by the Greeks and Arabs as esculents.

LOTUS CORNICULATUS. *Common Bird's-foot. Trefoil.* TAB. **1043.**

Stems decumbent, solid. Leaflets obovate. Peduncles very long. Heads depressed, umbellate, 3- to 10-flowered. Claw of the vexillum inflated above. Filaments all dilated. Legumes spreading, nearly cylindrical.

Lotus corniculatus, *E. B.* 2090. *Smith* III. 312. *Lindley* 81. *Hooker ed.* 2. 328. *ed.* 3. 333. *Macreight* 55.

Few of our native plants are in their place more ornamental than this, or repay with greater beauty the close observer. Open grassy banks and dry pastures throughout the kingdom are decorated with its rich golden yellow coronets of flowers from July to September. The habit varies greatly according to soil and aspect. Stems spreading in all directions, angular, clothed as well as the leaves with silky, adpressed hairs. Leaflets obovate, acute, glaucous beneath. Stipules resembling leaflets. Umbels spreading, mostly 3- to 5-flowered, with a ternate bractea at the base. Flowers crimson before expanding; the vexillum and keel more or less streaked with the same colour towards the lower part. Legumes long, nearly cylindrical, smooth, purplish when ripe. A variety is met with occasionally in which the pubescence is long and spreading instead of adpressed. Perennial.

LOTUS TENUIS. *Narrow-leaved Bird's-foot Trefoil.* TAB. **1043*.**

Stems prostrate, slender. Leaflets lanceolate. Peduncles very long. Heads depressed, umbellate, 3- to 10-flowered. Claw of the vexillum inflated above.

Lotus tenuis, *E. B. Supp.* 2615. *Hooker ed.* 2. 329. *ed.* 3. 333.
L. decumbens, *Forster. Lindley* 82. L. corniculatus *γ. Macreight* 55.

Not uncommon in dry pastures and waste ground. Probably a mere variety of the preceding, from which it is chiefly distinguished by its more slender habit and narrower leaves. Perennial. Flowers in July.

LOTUS MAJOR. *Greater Bird's-foot Trefoil.* TAB. **1044.**

Stems erect, tubular. Leaflets obovate. Peduncles very long. Heads depressed, umbellate, 6- to 12-flowered. Claw of the vexillum narrow. Shorter filaments not dilated.

Lotus major, *E. B.* 2091. *Smith* III. 313. *Lindley* 82. *Hooker ed.* 2. 329. *ed.* 3. 334. L. corniculatus *β. Macreight* 55.

Frequent in moist places among bushes, hedge-sides, and osier-grounds, the stem rising often to the height of 2 feet or more, but rather reclining against other plants than capable of supporting itself to that elevation. Whole plant more or less covered with long, loosely spreading hairs. Flowers larger and more numerous than is usual in *L. corniculatus*, and of a duller hue. Perennial. Flowers in July and August.

The distinctive characters given above are too unimportant, and at the same time inconstant, to admit of this being considered other than a variety of the first species, occasioned by the moist habitats in which alone it is found. A specimen transplanted into a dry garden, and shortened nearly to the root, in the second year could scarcely be distinguished from *L. corniculatus* removed thither at the same time, either in habit or structure of parts.

LOTUS ANGUSTISSIMUS. *Slender Bird's-foot Trefoil.* TAB. **1045.**

Hairy. Stems much branched, prostrate. Leaflets ovato-lanceolate. Peduncles about twice as long as the leaves, 1- to 3-flowered. Calyx-teeth very long. Legume slender, nearly cylindrical.

Lotus diffusus, *E. B.* 925. L. angustissimus, *Smith* III. 315. *Lindley* 82. *Hooker ed.* 2. 329. *ed.* 3. 334.

Rare. In the south of England, as on the rocky beach, Hastings, Sussex, Devonshire, and Cornwall. The general appearance of this plant is very different from that of either of the foregoing. Herb rather glaucous. Leaves hairy on both sides. Flowers often solitary, seldom more than 2 or 3 together, small, deep yellow; they appear in May and June. Annual.

GENUS CCCXCI. MEDICAGO. *Medick.*

GEN. CHAR. *Keel* rather distant from the vexillum. *Legume* falcate, or spirally twisted; many-seeded.

Herbaceous plants, generally annuals; a few species only are low shrubs. They have ternate leaves, serrated leaflets and stipules, and yellow, or very rarely purple flowers. Natives of the northern hemisphere, and chiefly European.

MEDICAGO SATIVA. *Purple Medick. Lucerne.* TAB. **1046.**

Stem erect, smooth. Leaflets oblong, acute, toothed. Peduncles racemose, nearly upright. Legumes loosely spiral.

Medicago sativa, *E. B.* 1749. *Smith* III. 317. *Lindley* 82. *Hooker ed.* 2. 330. *ed.* 3. 334. *Macreight* 52.

The Lucerne can scarcely be regarded as a native, as it is never met with unless in the vicinity of the fields on which it is cultivated. It seems to prefer a dry and especially a calcareous soil. Stems 1 to 2 feet high, branched. Leaflets smooth above, hairy beneath. Stipules very acute. Racemes axillary, many-flowered. Bracteas bristle-shaped. Flowers purple, streaked with white and green. Legumes spirally twisted, twice or thrice coiled. Perennial. Flowers in June and July.

This species is considered by many superior to Clover as fodder, especially for milch cows, and has been for many ages an object of great importance in the agriculture of the southern nations of Europe, from the times of the early Greeks and Romans to the present. It is said to have been introduced by the former from Asia.

MEDICAGO FALCATA. *Yellow Sickle Medick.* TAB. **1047.**

Stems procumbent, branched. Leaflets narrow obovate, toothed. Peduncles racemose. Legumes sickle-shaped.

Medicago falcata, *E. B.* 1016. *Smith* III. 317. *Lindley* 82. *Hooker ed.* 2. 330. *ed.* 3. 334. *Macreight* 52.

Met with on hedge-banks, the borders of fields, and in dry gravelly pastures, chiefly in the eastern counties of England. It is nearly allied to *M. sativa,* and has been considered by some botanists to be the truly wild state of that species; but the decumbent habit, yellow flowers, and simply curved, not spiral fruit, are opposed to their association as varieties. Stems widely spreading. Corolla pale yellow, rarely purple. Legumes black, downy, never screw-shaped. Perennial. Flowers in June and July.

MEDICAGO LUPULINA. *Black Medick. Nonsuch.* TAB. **1048.**

Stem procumbent. Leaflets obovate. Flowers capitato-spicate. Legumes kidney-shaped, rugged, veiny, single-seeded.

Medicago lupulina, *E. B.* 971. *Smith* III. 318. *Lindley* 83. *Hooker ed.* 2. 330. *ed.* 3. 335. *Macreight* 52.

Common in waste ground, meadows, pastures and cultivated fields. Habit that of *Trifolium filiforme,* but readily distinguished by its dense, ovate spikes, and curved, naked, black legumes. Stems angular, widely spreading. Flowers very small, crowded, bright yellow. Legumes sometimes twice coiled. Annual. Flowers from May to September.

It is much esteemed by farmers in some parts of the kingdom, and occasionally sown with other crops. Sheep thrive upon it. The name Nonsuch was conferred upon it from its supposed superiority as fodder.

MEDICAGO MACULATA. *Spotted Medick. Heart Medick.* TAB. **1049.**

Stem spreading. Leaflets obcordate. Stipules toothed. Peduncles 2- to 5-flowered. Legumes compactly spiral, compressed; the spires furrowed on the edge, and fringed with a double row of long, spreading, curved spines.

Medicago polymorpha, *Linn. E. B.* 1616. M. maculata, *Smith* III. 319. *Lindley* 83. *Hooker ed.* 2. 330. *ed.* 3. 335. *Macreight* 52.

Frequent in fields and pastures on a gravelly soil, in the middle and southern counties of England. Leaflets inversely heart-shaped, ribbed, regularly toothed on the upper margins, with commonly a blackish-purple curved spot near the centre. Peduncles slender, hairy, mostly 3-flowered. Corolla bright yellow. Legume bristly, coiled like a snail-shell. Annual. Flowers in May and June.

The 3 following are probably varieties of this.

MEDICAGO MURICATA. *Flat-toothed Medick.*

Procumbent. Stipules deeply toothed, hairy as well as the obcordate leaflets. Peduncles 1- to 3-flowered. Legumes compactly spiral, subglobose; the spires keeled on the edge, and fringed with a close, double row of short, curved spines.

Medicago muricata, *Smith* III. 320. *Lindley* 83. *Hooker ed.* 2. 330. *ed.* 3. 335. *Macreight* 52. M. polymorpha, ζ. muricata, *Linn.*

Found in the time of Ray on the sea-bank, Orford, Suffolk; but doubtful if at present a native. Leaves without spots, clothed with a fine, hoary pubescence. Flowers yellow, produced in June and July. Perennial. Frequent in the south of Europe.

MEDICAGO MINIMA. *Little Bur Medick.* TAB. **1049***.

Hairy. Stems procumbent. Leaflets obcordate. Stipules nearly entire. Peduncles 1- to 5-flowered. Legumes compactly spiral, subglobose; spires keeled at the margin, with a double row of hooked prickles.

Medicago minima, *E. B. Supp.* 2635. *Smith* III. 321. *Lindley* 83. *Hooker ed.* 2. 331. *ed.* 3. 335. *Macreight* 52.

Rare. On sandy fields and waste places, especially near the coast, in Norfolk, Suffolk, and Kent. A variable plant as to size and degree of pubescence. Flowers yellow, very small. Legumes about the size of a small pea, mostly with 4 coils. Annual. Flowers in June and July.

When growing near the sea, the leaves and stem are hoary, and in that state it is the *M. minima, β. canescens*, of De Candolle. It is common in the south of Europe, and on the shores of the Mediterranean.

MEDICAGO DENTICULATA. *Reticulated Medick.* TAB. **1049****.

Glabrous. Stems procumbent. Leaflets obcordate. Stipules laciniated. Peduncles 2- to 5-flowered. Legumes flat, loosely spiral, with 2 or 3 turns, reticulate; the margin thin, keeled with a double row of subulate curved prickles.

Medicago denticulata, *E. B. Supp.* 2634. *Hooker ed.* 2. 331. *ed.* 3. 336. *Macreight* 52. M. maculata, β. *Smith* III. 319.

Found in several places along the southern and eastern coasts of England, growing on dry sand-banks. A variable plant both in regard to habit and luxuriance. It chiefly differs from *M. maculata* in the form of the curved legume, whose flattened spire is contrasted on our plate with the conical or cylindrical one of the latter plant which is represented at fig. 1. Annual. Flowers from April to July.

CLASS XVIII. POLYADELPHIA.

ORDER I. POLYANDRIA.

GENUS CCCXCII. HYPERICUM. *St. John's-wort.*

Nat. Order. HYPERICINEÆ.

GEN. CHAR. *Calyx* inferior, 5-leaved, or 5-parted. *Petals* 5. *Filaments* (mostly) numerous, united at the base into 3 or 5 sets. *Styles* 3 to 5. *Capsule* membranous (except in *H. Androsæmum*), many-seeded.

This beautiful genus, consisting of herbaceous plants and under-shrubs, is scattered pretty widely, some species being met with in most parts of the globe, but most abundantly in temperate climates. All of them have opposite leaves, and, with very few exceptions, yellow flowers, those of *H. Cochinchinense* and 2 or 3 others only passing into a dull red. Every part of them abounds in a yellow resinous juice, which is viscid, bitter, and generally cathartic, approaching nearly to Gamboge in its characters. It is secreted by glands which are conspicuous on the leaves, calyx, and even petals and stamens of many species.

* *Styles* 5.

HYPERICUM CALYCINUM. *Large-flowered St. John's-wort.* TAB. **1050.**

Stem shrubby, branched, quadrangular. Leaves oblong. Flowers solitary. Calyx-segments unequal, obovate, obtuse. Styles 5.

Hypericum calycinum, *E. B.* 2017. *Smith* III. 323. *Lindley* 41. *Hooker ed.* 2. 331. *ed.* 3. 336. *Macreight* 39.

This species, so frequently seen ornamenting shady gardens and shrubberies, is found in some few places apparently wild or at least naturalized, especially near Cork, Ireland. An evergreen undershrub of much beauty, creeping rapidly by its numerous *surculi* (underground stems). Flowers very large, solitary, terminating the simple, leafy branches. Petals bright golden yellow, often lobed on one side, a peculiarity probably due to the remarkable obliquity of the veins which occurs in these organs nearly throughout the natural order. Flowers from June to October.

Few plants will flourish so well under the drip of trees, but its creeping habit renders it better adapted to the shrubbery than the garden.

** *Styles 3. Segments of the calyx entire at the margins.*

HYPERICUM ANDROSÆMUM. *Tutsan. Park Leaves.* TAB. **1051.**

Shrubby. Branches compressed. Leaves ovate, sessile. Leaves of the calyx unequal. Styles 3. Capsule berry-like.

Hypericum Androsæmum, *Linn. E. B.* 1225. *Smith* III. 324. *Hooker ed.* 2. 332. *ed.* 3. 336. Androsæmum officinale, *De Cand. Lindley* 43. *Macreight* 39.

Not unfrequent in woods and thickets, though chiefly on a gravelly soil. Stems 2 or 3 feet high, woody, but scarcely perennial except at the lower part; obscurely quadrangular. Leaves ovato-cordate, more or less acuminate, smooth. Flowers in cymose panicles, rather large, bright yellow. Calyx permanent, of 5 ovate leaves, 2 of them smaller than the rest; dilating, spreading, and becoming of a crimson tinge as the fruit ripens. Berries purplish black, elliptical. Flowers from July to September.

It was formerly celebrated as a vulnerary, hence the English name, a corruption of the French *Toute-saine.*

HYPERICUM QUADRANGULUM. *Square-stalked St. John's-wort.* TAB. **1052.**

Stem herbaceous, quadrangular. Leaves ovate, with pellucid dots. Calyx-leaves lanceolate. Styles 3.

Hypericum quadrangulum, *E. B.* 370. *Smith* III. 324. *Lindley* 42. *Hooker ed.* 2. 332. *ed.* 3. 337. *Macreight* 39.

Common in moist thickets and hedges, and by the sides of ditches and rivulets. Stems erect, one or two feet high, acutely quadrangular. Leaves rather obtuse, pale beneath, copiously speckled with pellucid dots. Panicles terminal, oppositely branched. Calyx-leaves narrow. Petals oblique, light yellow. Anthers with a dark purple gland. Perennial. Flowers in July and August.

HYPERICUM PERFORATUM. *Common perforated St. Johns'-wort.* TAB. **1053.**

Herbaceous. Stem 2-edged. Leaves elliptic-oblong, obtuse, with pellucid dots. Calyx-segments lanceolate. Styles 3.

Hypericum perforatum, *E. B.* 295. *Smith* III. 325. *Lindley* 42. *Hooker ed.* 2. 332. *ed.* 3. 337.

Very common in woods, thickets and hedges. Creeping at the base. Stems erect, 1 to 2 feet high, branched. Leaves rather glaucous beneath, with numerous pellucid dots, and many dark purple ones about the margin, as also about the tips of both calyx and petals. Panicle terminal, forked, leafy. Petals entire on one side, crenated on the other; bright yellow. Perennial. Flowers in July and August.

This is the true St. John's-wort, so called from being formerly gathered with much ceremony on St. John's day by the people of northern Europe as a preservative against witchcraft and magic.

HYPERICUM DUBIUM. *Imperforate St. John's-wort.* TAB. **1054.**

Stem obsoletely quadrangular. Leaves elliptical, obtuse, destitute of pellucid dots. Calyx-segments elliptical. Styles 3.

Hypericum dubium, *E. B.* 296. *Smith* III. 326. *Lindley* 42. *Hooker ed.* 2. 332. *ed.* 3. 337. H. quadrangulum, β. dubium, *De Cand. Macreight* 39.

Far from frequent. In woods and thickets, mostly in mountainous or subalpine districts. It approaches the last species very nearly both in habit and general features, differing chiefly in the absence of pellucid dots on the leaves. Corolla deep yellow, generally bordered and more or less sprinkled with dark purple glands. Perennial. Flowers in July and August. If a variety, certainly not of *H. quadrangulum,* unless *H. perforatum* be deemed so likewise.

HYPERICUM HUMIFUSUM. *Trailing St. John's-wort.* TAB. **1055.**

Stem compressed, prostrate. Leaves oval-oblong, obtuse, smooth. Flowers sub-cymose. Calyx-segments ovate, leafy. Styles 3.

Hypericum humifusum, *E. B.* 1226. *Smith* III. 326. *Lindley* 42. *Hooker ed.* 2. 332. *ed.* 3. 337. *Macreight* 39.

A frequent plant in moist places in woods and on commons on a gravelly and sandy soil, as well as on boggy heaths. Stems very slender, trailing, branched, 6 to 9 inches long. Leaves thin, pale green, dotted. Flowers bright yellow; the calyx-segments broad, and, as well as the petals, more or less bordered and sprinkled with purple glands. Fruit red. Perennial. Flowers through the summer.

A beautiful little plant, well worthy of a place in the fancy garden, as it flowers profusely on rock-work, whether in sun-light or shade.

*** *Segments of the calyx always bordered with glandular serratures.*

HYPERICUM MONTANUM. *Mountain St. John's-wort.* TAB. **1056.**

Stems erect, round, smooth. Leaves ovate, stem-clasping. Calyx with dense, prominent, glandular serratures. Styles 3.

Hypericum montanum, *E. B.* 371. *Smith* III. 327. *Lindley* 42. *Hooker ed.* 2. 333. *ed.* 3. 337. *Macreight* 40.

Frequent in hilly and bushy places on a chalky or gravelly soil. Stems several, simple, 1 to 2 feet high. Leaves distant above, more or less dotted, and with a marginal row of black glands on the lower surface. Flowers in a terminal panicle; the bracteas and calyces beautifully fringed with dark brown or purple glands. Petals pale yellow, sometimes dotted. Perennial. Flowers in July.

HYPERICUM BARBATUM. *Bearded St. John's-wort.* TAB. **1057.**

Stem erect, slightly angular. Leaves ovate, with black scattered dots on the under surface. Calyx fringed with long-stalked glands. Petals veined and dotted. Styles 3.

Hypericum barbatum, *E. B.* 1986. *Smith* III. 327. *Lindley* 42. *Hooker ed.* 2. 333. *ed.* 3. 337. *Macreight* 40.

Found by Mr. G. Don by the side of a hedge near Aberdalgy in Strathearn, Perthshire. One of those plants whose single locality warrants the conclusion of its being an accidental introduction rather than indigenous. It is a native of the alpine districts of central and southern Europe. Stems about a foot high. Leaves slightly revolute at the margin, smooth, sprinkled as well as the calyx and petals with black or dark purple glandular dots. Flowers bright yellow, in a terminal, leafy panicle. Calyx elegantly fringed with long glandular hairs. Stamens in 3 sets. Perennial. Flowers in September and October.

HYPERICUM HIRSUTUM. *Hairy St. John's-wort.* TAB. **1058.**

Stem erect, round, pubescent. Leaves ovate, downy. Calyx with black glandular serratures. Styles 3.

Hypericum hirsutum, *E. B.* 1156. *Smith* III. 328. *Lindley* 42. *Hooker ed.* 2. 333. *ed.* 3. 338. *Macreight* 40.

Common in dry woods, thickets and shady places on a chalky soil, but rare on others. The stems rise to the height of 2 feet, terminating in a large and much branched panicle of golden yellow flowers, smaller but more deeply coloured than those of *H. montanum*, from which its pubescent habit at once distinguishes it. Petals oblique, as in most plants of the genus, often serrated at the tips with black, viscid glands similar to those of the calyx. Perennial. Flowers in July.

HYPERICUM PULCHRUM. *Small upright St. John's-wort.* TAB. **1059.**

Stem erect, round. Leaves stem-clasping, cordate, smooth. Calyx and petals with dark glandular serratures. Styles 3.

Hypericum pulchrum, *E. B.* 1227. *Smith* III. 329. *Lindley* 42. *Hooker ed.* 2. 333. *ed.* 3. 338. *Macreight* 40.

This, one of the most elegant of our indigenous plants, is a very common species in dry woods and among bushes on heaths and commons. Stems 1 to 2 feet high, very slender, rigid, erect, branched. Leaves somewhat convex, rigid, dotted, a little glaucous, often changing to red. Flowers in loose panicles. Petals bright yellow, tipped externally with scarlet; anthers crimson. Perennial. Flowers in July.

HYPERICUM ELODES. *Marsh St. John's-wort.* TAB. **1060.**

Stems rounded, ascending, creeping below, villous. Leaves roundish-ovate, shaggy. Panicle few-flowered. Calyx with reddish glandular serratures, glabrous. Styles 3.

Hypericum elodes, *E. B.* 109. *Smith* III. 330. *Lindley* 42. *Hooker ed.* 2. 333. *ed.* 3. 338. *Macreight* 40.

Not unfrequent in spongy bogs and on the margins of lakes and rivers in a peaty soil. Stems at first procumbent and rooting at the joints, afterwards ascending 6 to 8 inches high; their texture is spongy. Leaves almost orbicular, about 7-ribbed. Flowers in a small irregular panicle, seldom more than 6 or 7; they expand only in bright sunshine. Petals pale yellow with green lines. Stamens in 3 irregular sets, having from 3 to 5 filaments in each. Base of the germen with 3 glandular-like processes. Perennial. Flowers in July and August.

CLASS XIX. SYNGENESIA.

THIS class is synonymous with the great natural order *Compositæ*, distinguished by the cohesion of the anthers in the form of a tube, and the arrangement of the flowers in compact symmetrical heads (*capitula*, *anthodia*, *or calathidia*). In all these plants the principal flower-stalk enlarges at the summit into a receptacle, bearing a number of small flowers (*florets*), surrounded by a calyx-like involucrum, and thus resembling in the mass a single flower. The calyx of each floret is either abortive or expands in a hairy or feather-like process (*pappus*), eventually crowning the inferior, single-seeded pericarp, and serving as a wing for its dispersion, as in the seeds (so called) of the Dandelion, Groundsel, and Thistle. The corolla is either tubular and 5-cleft, or ligulate and more or less obscurely toothed at the extremity. Stamens always 5, the filaments only distinct. Style single, rising through the antheral tube and terminating in a bifid stigma.

The united anthers distinguish them from *Dipsacus*, *Scabiosa*, and those genera of other classes which resemble them in the form of their inflorescence.

Nearly a tenth part of the flowering plants at present known belong to this truly natural class. In the temperate and colder regions they are almost always herbaceous; within the tropics generally shrubby, rarely arborescent. Yellow is the prevailing colour of the flowers, but white, blue, red and purple, with numerous intermediate hues, though comparatively unfrequent, are conspicuous in a group containing nearly 4000 species. Though collectively ornamental plants, the near resemblance of the exotic species to those which are among the most common of European weeds has hitherto operated to their exclusion from the flower-garden, unless in a few instances in which the skill of the florist has been lavish in the production of varieties, or the lateness of their flowering tends to prolong in our inclosures the gaiety of summer to the verge of winter. The Dandelion, Daisy, and Thistle are types of 3 very marked sections, the *Cichoraceæ*, *Corymbiferæ*, and *Cynarocephalæ* of Jussieu, but in the Linnæan orders these are of necessity much confounded.

ORDER I. ÆQUALIS. (*Florets all perfect.*)

* *Corollas all ligulate.* Cichoraceæ. Juice generally milky, bitter, and more or less narcotic.

GENUS CCCXCIII. TRAGOPOGON. *Goat's-beard.*

GEN. CHAR. *Involucrum* simple, of 8 or 10 connected scales. *Receptacle* naked. Fruit longitudinally striated. *Pappus* feathery, stalked.

Biennial herbs with entire, stem-clasping leaves, and terminal yellow, or purple flowers. Natives of Europe and northern Asia.

TRAGOPOGON PRATENSIS. *Yellow Goat's-beard.* TAB. **1061.**

Glabrous. Leaves channeled, very much acuminated; dilated and somewhat undulated at the base. Peduncle cylindrical. Involucrum about equal to the florets.

Tragopogon pratensis, *E. B.* 434. *Smith* III. 337. *Lindley* 161. *Hooker ed.* 2. 339. *ed.* 3. 344. *Macreight* 141.

Not unfrequent in meadows and pastures, rising to the height of 1½ to 2 feet, and flowering in June and July. Stem branched below, often purplish. Leaves sessile, terminating in a long, narrow point. Flowers single, terminal, yellow, large; they expand about sunrise and close at noon; hence the provincial name, "Go-to-bed-at-noon." The large feathery head of fruit is a very beautiful object. Biennial.

TRAGOPOGON MAJOR. *Greater Goat's-beard.*

Glabrous. Leaves channeled, acuminated. Peduncle thickened upwards. Involucrum more than half as long again as the florets.
Tragopogon major, *Jacquin Austr. t.* 29? *Hooker ed.* 2. 339. *ed.* 3. 344. *Macreight* 141. T. pratensis, *Johnston, Fl. of Berwick.* 172.

Found abundantly near Eccles, and on the banks of the Tweed. *Profess. Hooker.* The distinction between it and the preceding rests upon the relative length of the florets and involucrum and the dilated peduncle. Biennial. Flowers yellow.

TRAGOPOGON PORRIFOLIUS. *Purple Goat's-beard. Salsafy.* TAB. **1062.**

Glabrous. Leaves tapering, straight from the base. Peduncle thickened upwards. Involucrum much longer than the florets.
Tragopogon porrifolius, *E. B.* 638. *Smith* III. 338. *Lindley* 161. *Hooker ed.* 2. 340. *ed.* 3. 345. *Macreight* 141.

Occasionally met with in moist meadows, but rather to be regarded as a naturalized than indigenous plant. Stem 3 or 4 feet high, glaucous as well as the leaves, which are stiffer and straighter than those of *T. pratensis.* Involucral leaves about twice the length of the dark purple florets. Biennial. Flowers in May and June.

Formerly much cultivated as a culinary vegetable under the name of Salsafy, and though rarely seen now in the English kitchen-garden, the taper roots, which have a sweetish flavour not unlike that of Asparagus, are still in high repute on the continent as a dietetic.

GENUS CCCXCIV. HELMINTHIA. *Ox-tongue.*

GEN. CHAR. *Involucrum* double; inner one of 8 close, equal scales; outer of 4 or 5 large, loose, foliaceous ones. *Receptacle* flat, naked. Fruit transversely striated. *Pappus* feathery, stalked.

Originally combined with the following genus, *Picris*, from which the only known species differs essentially in the leafy outer involucrum and stalked pappus.

HELMINTHIA ECHIOIDES. *Bristly Ox-tongue.* TAB. **1063.**

Picris echioides, *Linn. E. B.* 972. *Smith* III. 339. Helminthia echioides, *Jussieu. Lindley* 158. *Hooker ed.* 2. 340. *ed.* 3. 345. *Macreight* 142.

Found, not unfrequently, in a clayey soil, on the borders of fields and about hedge-banks. (Not in Scotland. *Prof. Hooker.*) Stems 2 to 3 feet high, branched. Lower leaves lanceolate; upper-ones cordate, stem-clasping. Flowers deep yellow. Leaves of the outer involucrum, heart-shaped, spiny at the margin. Whole herb set with scattered prickles growing out of white tubercles ; they are too sharp and rigid to admit of its being handled with impunity. Annual. Flowers in June and July.

GENUS CCCXCV. PICRIS. *Picris.*

GEN. CHAR. *Involucrum* double: inner of many compact, erect, equal scales; outer of several small, lax, linear-lanceolate ones. *Receptacle* flat, naked. Fruit transversely striated. *Pappus* somewhat feathery, sessile.

Hispid annual or biennial herbs with yellow flowers; natives chiefly of Europe and northern Asia.

PICRIS HIERACIOIDES. *Hawk-weed Picris.* TAB. **1064.**

Stem rough, with hooked bristles. Leaves rough, lanceolate, wavy; radical ones toothed. Inflorescence corymbose. Peduncles with many bracteas.

Picris hieracioides, *E. B.* 196. *Smith* III. 339. *Lindley* 159. *Hooker ed.* 2. 340. *ed.* 3. 345. *Macreight* 141.

Frequent on road-sides and the borders of fields. The whole herb rough. Stem branched, 2 or 3 feet high, often tinged with purple. Leaves sessile; the radical ones with several irregular, spreading, tooth-like segments. Biennial. Flowers in July and August.

GENUS CCCXCVI. SONCHUS. *Sow-Thistle.*

GEN. CHAR. *Involucrum* imbricated with 2 or 3 rows of unequal scales; oblong, ventricose at the base. *Receptacle* flat, naked. *Fruit* striated longitudinally. *Pappus* sessile, hair-like.

The species are widely distributed: in cold and temperate climates they are always herbaceous, in hot ones frequently shrubs. Flowers various, often ornamental.

SONCHUS ALPINUS. *Blue Alpine Sow-Thistle.* TAB. **1065.**

Leaves somewhat lyrate; their terminal lobe triangular, very large. Inflorescence racemose. Peduncles, bracteas, and involucra hispid with glandular hairs.

Sonchus cæruleus, *E. B.* 2425. *Smith* III. 341. S. alpinus, *Linn.*? *Hooker ed.* 2. 340. *ed.* 3. 345. *Lindley* 156. *Macreight* 143.

Found in rocky places near rivulets on the Scottish mountains, but of rather rare occurrence. Stem 3 or 4 feet high, simple, smooth below. Leaves smooth, variously lyrate, the terminal lobe very large, triangular, but with intermediate teeth and projections. Inflorescence clothed with prominent red, viscid hairs, terminating in globular glands. Corollas large, purplish-blue. Perennial. Flowers in July and August.

SONCHUS PALUSTRIS. *Tall Marsh Sow-Thistle.* TAB. **1066.**

Leaves runcinato-pinnatifid, arrow-shaped at the base, the margin toothed; segments long, few, lanceolate, distant. Peduncles and involucra hispid with glandular hairs.

Sonchus palustris, *E. B.* 935. *Smith* III. 341. *Lindley* 156. *Hooker ed.* 2. 341. *ed.* 3. 346. *Macreight* 143.

The largest of our native *Compositæ*, growing to the height of 7 or 8 feet. A very local, if not rare plant, belonging to marshy places and the banks of rivers. It is met with near the Thames about Greenwich and Blackwall, in the Isle of Ely, and at Croydon, Surrey. Upper leaves simply sagittate, the basal lobes divaricated and very long. Inflorescence sub-cymose. Flowers numerous, large, yellow; produced in July and August. Perennial.

SONCHUS ARVENSIS. *Corn Sow-Thistle.* TAB. **1067.**

Creeping at the root. Lower leaves runcinate, heart-shaped at the base, finely toothed; segments short, triangular: upper ones undivided. Peduncles and involucra hispid with glandular hairs.

Sonchus arvensis, *E. B.* 674. *Smith* III. 342. *Lindley* 156. *Hooker ed.* 2. 341. *ed.* 3. 346. *Macreight* 143.

A common plant in corn-fields, where its creeping habit often renders it a very troublesome weed. Stems 3 or 4 feet high, very little branched. Leaves beautifully fringed with little spinous teeth. Inflorescence somewhat umbellate. Flowers very large and conspicuous; the florets bright golden yellow, crimsoned externally, with a hairy tube. Perennial. Flowers in August.

SONCHUS OLERACEUS. *Common Sow-Thistle.* TAB. **1068.**

Leaves more or less pinnatifid, lower ones petiolate; upper ones lanceolate, sessile, sagittate at the base and stem-clasping; all dentato-ciliate. Inflorescence sub-cymose. Involucra smooth. Fruit cancellate.

Sonchus oleraceus, *E. B.* 843. *Smith* III. 343. *Lindley* 156. *Hooker ed.* 2. 341. *ed.* 3. 346. *Macreight* 143.

Var. β. S. asper, *E. B. Supp.* 2765. and 2766. S. oleraceus γ. and δ. *Linn. and Smith.* Leaves with rounded auricles; lower ones sessile. Fruit ribbed, scarcely cancellate. Tab. **1068*** and **1068****, *except fig. b. in the former, which represents the fruit of the more common var. S. oleraceus.*

One of the most common and troublesome of weeds in all soils and situations, and liable to assume as many varieties of aspect as it inhabits diversities of locality. Whole herb generally of a glaucous hue, and abounding in a milky juice. Stems 1 to 3 feet high. Flowers small, seldom expanding but in sunshine, pale yellow. Involucrum conical when in fruit. Annual. Flowers from June through the summer and autumn.

Genus CCCXCVII. LACTUCA. *Lettuce.*

Gen. Char. *Involucrum* cylindrical, imbricated; its scales membranous at the margin. *Receptacle* naked. *Pappus* simple, stalked, fugacious.

Like *Sonchus*, to which it is nearly allied, this genus is far from local, some species being found in most parts of the world. Flowers generally yellow, rarely blue.

Lactuca sativa and 3 or 4 other exotic species are cultivated as food or salad, being either blanched or eaten in a young state; but the stems and mature foliage, when grown and exposed to light, are extremely bitter and powerfully sedative; and most of the remaining species are narcotic poisons.

LACTUCA virosa. *Strong-scented Lettuce. Wild Lettuce.* Tab. **1069.**

Leaves horizontal, oblong, finely toothed, stem-clasping; their keel prickly. Inflorescence panicled.

Lactuca virosa, *E. B.* 1957. *Smith* III. 345. *Lindley* 156. *Hooker ed.* 2. 341. *ed.* 3. 346. *Macreight* 142.

Not unfrequent on hedge-banks, borders of fields, and way-sides, especially in a chalky or clayey soil, likewise on old walls. Stems erect, rather slender, prickly, 3 or 4 feet high, branching only above to form the panicle. Leaves nearly smooth, except on the middle rib beneath, which is set with straight prickles; glaucous. Flowers small, yellow; produced about August. Biennial.

The milky juice which gives name to the genus abounds to such a degree in this plant as to issue forth in large drops on the slightest touch. It has a strong smell like Opium, and has long been employed medicinally for similar purposes, being milder in its effects, and not followed by the depressing symptoms which occasionally attend the administration of the Asiatic drug. Of late years the extract of the common Lettuce, *L. sativa*, has been substituted for that of the wild one in the British Pharmacopœia.

LACTUCA scariola. *Prickly Lettuce.* Tab. **1070.**

Leaves nearly erect, stem-clasping, lobed and sinuated, finely toothed; their keel prickly. Flowers in a terminal panicle.

Lactuca Scariola, *E. B.* 268. *Smith* III. 346. *Lindley* 156. *Hooker ed.* 2. 341. *ed.* 3. 346. *Macreight* 142.

Occasionally met with on waste ground, and the borders of dry fields, chiefly in the south-eastern counties of England. The stem rises to the height of 2 or 3 feet, terminating in a distant and somewhat leafy panicle of small, pale yellow flowers. The narrower, nearly upright leaves and more prickly habit distinguish it at once from the preceding species, than which it is less acrid, though abounding in milky juice, and bitter and nauseous to the taste. Biennial. Flowers in August.

LACTUCA SALIGNA. *Small Wild Lettuce.* TAB. **1071.**

Radical leaves lanceolate, scarcely toothed; cauline ones linear-lanceolate, entire, sagittate: their keel prickly. Flowers nearly sessile, on lateral spike-like panicles.

Lactuca saligna, *E. B.* 707. *Smith* III. 347. *Lindley* 157. *Hooker ed.* 2. 341. *ed.* 3. 347. *Macreight* 142.

A local species, being only found in the southern counties, chiefly toward the sea and about salt-marshes on a chalky soil. A slender plant, with brown, twiggy branches, and narrow, mostly entire leaves; not very unlike a small Osier at first sight, whence the specific name. Flowers very small, pale yellow; they appear about August. Biennial.

GENUS CCCXCVIII. PRENANTHES. *Wall-Lettuce.*

GEN. CHAR. *Involucrum* cylindrical; its principal scales equal, with small ones at the base. Florets few. *Receptacle* naked. *Pappus* simple, sessile, or nearly so.

Herbs, or in hot climates under-shrubs, distributed over most parts of the northern hemisphere. Flowers generally yellow, sometimes purple or reddish. None of the species are remarkable for beauty or applied to economical purposes.

PRENANTHES MURALIS. *Ivy-leaved Wall-Lettuce.* TAB. **1072.**

Leaves lyrate, wing-cleft, toothed; the terminal lobe large, angular. Panicle with divaricated branches. Florets 5.

Prenanthes muralis, *E. B.* 457. *Smith* III. 348. *Hooker ed.* 2. 342. *ed.* 3. 347. Chondrilla muralis, *Lamarck. Lindley* 157. Lactuca muralis, *Macreight* 142.

Far from common, though sometimes found in abundance on old shady walls and chalk cliffs, and occasionally in dry, rocky woods. Stem a foot or more in height, terminating in a zig-zag panicle. Leaves pinnatifid, their segments runcinate; dark green above, purplish beneath. Involucrum slender, coloured above. Florets 5 only, by which this may be distinguished at first sight from every other native plant of the order. Perennial. The pale yellow flowers appear in July and August.

PRENANTHES HIERACIIFOLIA. *Hawk-weed-leaved Wall-Lettuce.* TAB. **1073.**

Leaves downy, toothed; radical ones oblong obovate; the rest sagittate. Panicle corymbose, spreading.

Crepis pulchra, *Linn .E. B.* 2325. *Smith* III. 371. *Macreight* 143. Prenanthes hieraciifolia, *Lindley* 157. *Hooker ed.* 2. 342. *ed.* 3. 347.

Found hitherto only among crumbling rocks on the hill of Turin, near Forfar, Scotland. Herb downy. Root-leaves thin, tapering into a foot-stalk; blunt above, crenated; cauline ones few, small, arrow-shaped, sessile, stem-clasping. Flowers small, yellow, with brown anthers and stigmas. Pappus a little stalked. Annual. Flowers from June to September.

GENUS CCCXCIX. LEONTODON. *Dandelion.*

GEN. CHAR. *Involucrum* imbricated with flaccid scales; the outer ones often spreading. *Receptacle* naked. *Pappus* simple, stalked.

Northern perennial herbs, with solitary, scapose, yellow flowers. The British species are showy, but all rank among the most troublesome of weeds. *L. Taraxacum* is however a useful medicine.

LEONTODON TARAXACUM. *Common Dandelion.* TAB. **1074.**

Leaves runcinate, toothed, smooth. Outer scales of the involucrum reflexed.

Leontodon Taraxacum, *Linn. E. B.* 510. *Smith* III. 349. *Lindley* 158. *Hooker ed.* 2. 342. *ed.* 3. 347. Taraxacum Dens Leonis, *Desfontains. Macreight* 142.

Common throughout the kingdom in meadows and pastures, flowering during the whole of the summer and autumn, but chiefly in May and June. Leaves all radical, deeply cleft into opposite, wing-like, pointed segments, which are hooked backwards (*runcinate*): hence the French name of the plant, *Dent de lion,* and likewise the Greek generic, literally Lion's-tooth. Flowers large, deep yellow, expanding only in the sunshine. Few native plants are more beautiful than this, whether in flower or fruit. Perennial. The roots run very deep in the soil and branch so as to render it difficult to extirpate.

The whole herb, and especially the root, is milky and bitter, and esteemed in medicine for its tonic and diuretic qualities; whence the decoction of the latter has, time out of mind, been a popular and often an efficacious remedy in dropsical cases. The young leaves are eaten as salad, but unless blanched are more bitter and much less palatable than Endive.

LEONTODON PALUSTRE. *Marsh Dandelion.* TAB. **1075.**

Leaves sinuated and toothed, nearly smooth. Outer scales of the involucrum shorter, erect, adpressed.

Leontodon palustre, *E. B.* 553. *Smith* III. 350. *Lindley* 158. *Hooker ed.* 2. 342. *ed.* 3. 347. Taraxacum palustre, *Macreight* 142.

Moist meadows, heaths, and pastures are occasionally made gay with the flowers of this species, which chiefly differs from the last in the outer scales of the involucrum not being divaricated, and the lobes of the leaves straight instead of runcinate. Florets bright yellow, often reddish externally. It has very much the appearance of a mere variety, which alone it is considered by many botanists. Dr. Hooker remarks upon its frequency on the wet moors of Scotland, " where," he adds, " it may be seen gradually passing into *L. Taraxacum*." Perennial. Flowers through the summer.

GENUS CCCC. APARGIA. *Hawkbit.*

GEN. CHAR. *Involucrum* imbricated; the inner scales equal, the outer ones smaller. *Receptacle* naked, punctured. *Pappus* feathery, sessile.

Herbaceous perennials with showy yellow or orange-coloured flowers. Leaves all radical, more or less runcinate. Scape generally simple and single-flowered. The genus nearly resembles *Leontodon* in habit, with which many of the species were originally confounded. Chiefly distributed over Europe and the neighbouring countries lying around the basin of the Mediterranean.

APARGIA HISPIDA. *Rough Hawkbit.* TAB. **1076**.

Leaves with runcinate teeth, rough with forked hairs. Scape single-flowered. Flower-buds drooping. Involucrum hairy. Florets hairy at their orifice, glandulose at the tip.

Hedypnois hispidum, *Hudson*. *E. B.* 554. Apargia hispida, *Smith* III. 351. *Lindley* 162. *Hooker ed.* 2. 342. *ed.* 3. 347. Thrincia hispida, *Macreight* 141. Leontodon hispidum, *Linn.*

A frequent plant on dry meadows, pastures and heaths. Leaves sometimes pinnatifid. Florets bright yellow, with a tuft of long, yellow, erect hairs at the top of the tube. Rays of the pappus unequal Perennial. Flowers in June and July.

APARGIA TARAXACI. *Dandelion Hawkbit.* TAB. **1077**.

Leaves smooth, runcinate. Scape swollen and hairy at the summit; mostly single-flowered. Involucrum hairy.

Hedypnois Taraxaci, *E. B.* 1109. Apargia Taraxaci, *Smith* III. 352. *Lindley* 162. *Hooker ed.* 2. 342. *ed.* 3. 347. *Macreight* 141. Hieracium Taraxaci, *Linn.*

This remarkable species is only met with in alpine districts, but is not rare, growing in tolerable abundance upon many of the mountains of North Wales, Scotland and Ireland. Root præmorse. Leaves variable in breadth, linear-lanceolate, spathulate, or even obovate, but always with runcinate teeth or lobes. Scape with 2 or 3 awl-shaped bracteas; smooth below, tumid above, and thickly clothed as well as the involucrum with a dense, black pubescence. Flowers generally solitary, rather large, deep yellow; produced in August. Perennial.

APARGIA AUTUMNALIS. *Autumnal Hawkbit.* TAB. **1078.**

Leaves nearly smooth, lanceolate, toothed, or pinnatifid. Scape branched; the branches with numerous scaly bracteas, and thickened at the summit.

Hedypnois autumnalis, *E. B.* 830. Apargia autumnalis, *Smith* III. 353. *Lindley* 162. *Hooker ed.* 2. 342. *ed.* 3. 348. Oporina autumnalis, *Macreight* 141. Leontodon autumnale, *Linn.*

Common everywhere in meadows and pastures, flowering about August and September. It varies in habit and in the breadth and lobing of the leaves, but is readily known by its branched scapes, and scaly peduncles gradually thickening toward the summit and becoming confounded with the involucrum. Flowers yellow. Perennial. Root præmorse.

Surely neither a variety of *A. Taraxaci,* nor identical with *A. alpina,* as suggested by Hooker?

GENUS CCCCI. THRINCIA. *Thrincia.*

GEN. CHAR. *Involucrum* multipartite, imbricated with a few small scales at the base. *Receptacle* naked, punctured. *Pappus* of the outermost series *scaly*; of all the inner ones, *feathery.*

The genus is small, and so closely allied to the last that the only British species has by some botanists been considered as a variety only of *Apargia hispida.* Its principal character of distinction consists in the abortion of the pappus of the outer florets, or, more correctly speaking, its partial return to the form of a calyx.

THRINCIA HIRTA. *Hairy Thrincia.* TAB. **1079.**

Leaves lanceolate, sinuately toothed, hispid. Scapes single-flowered. Involucrum smooth.

Hedypnois hirtum, *E. B.* 555. Apargia hirta, *Smith* III. 352. Thrincia hirta, *Lindley* 162. *Hooker ed.* 2. 343. *ed.* 3. 348. *Macreight* 141. Leontodon hirtum, *Linn.*

Frequent on gravelly heaths and commons, flowering in July and August. Root præmorse. Leaves variable as to toothing, sometimes runcinate. Flowers drooping in bud; the florets bright yellow, with an orange tinge externally. Perennial.

The calyx-like pappus of the outer florets is shown in the magnified view of the fruit as contrasted with the feathery one of those of the centre.

GENUS CCCCII. HIERACIUM. *Hawkweed.*

GEN. CHAR. *Involucrum* imbricated with many linear oblong scales, ovate. *Receptacle* naked, punctured; or with a few short hairs. *Pappus* simple, sessile.

Herbaceous plants, chiefly perennial. Leaves generally hairy. Flowers yellow, rarely orange-coloured or reddish. Pappus mostly of a dusky or brownish hue.

The genus is abundantly distributed over the temperate and colder countries of the northern hemisphere. About 150 species are known, some of which are ornamental, but the greater number rank as mere weeds, and none are at present applied either to medical or economical purposes, although *H. murorum* and *H. pulmonarium* were formerly extolled for the cure of consumption; and the generic name, from ἱέραξ, a hawk, was probably bestowed in consequence of the juice of certain species being employed in ophthalmic disorders, or to strengthen and improve vision, so as, figuratively, to "see like a hawk," rather than from the absurd notion usually referred to by botanical etymologists of its being used by the hawks themselves for a similar purpose.

* *Stem leafless, or with, rarely, one leaf; single-headed.*

HIERACIUM ALPINUM. *Alpine single-flowered Hawkweed.* TAB. **1080**.

Whole herb hairy. Stem with 1 or 2 leaves or bracteas, single-flowered. Leaves oblongo-lanceolate, nearly entire. Involucrum shaggy.

Hieracium alpinum, *E. B.* 1110. *Smith* III. 355. *Lindley* 159. *Hooker ed.* 2. 343. *ed.* 3. 348. *Macreight* 144.

Found on the high rocky mountains of Wales and Scotland. Root præmorse. Herb rough with prominent hairs somewhat glandular at the base. Stem 5 or 6 inches high, mostly with a single leaf near the lower part and 1 or 2 small bracteas beneath the flower; dark-coloured above, where the pubescence of the lower part begins to pass into the denser covering of the involucrum, which is of a dingy or fulvous hue, long and silky. Flower large, deep yellow; produced about August. Perennial.

HIERACIUM HALLERI. *Haller's Hawkweed.* TAB. **1081**.

Herb hairy. Stem 1-flowered, with 1 or 2 leaves toward the base. Radical leaves lanceolate or oblong, nearly entire or with distant teeth. Involucrum with long silky pubescence.

Hieracium villosum, *E. B.* 2379. H. Halleri, *Smith* IV. 271. *Lindley* 160. *Hooker ed.* 2. 343. *ed.* 3. 348. *Macreight* 144.

A native of the Highland mountains of Scotland, and probably, as suggested by Dr. Hooker, only a luxuriant state of *H. alpinum*. Perennial. Flowers in August.

HIERACIUM PILOSELLA. *Common Mouse-ear Hawkweed.* TAB. **1082.**

Scyons creeping. Stem hairy, leafless, scape-like, single-flowered. Leaves elliptical-lanceolate, entire, hairy; downy beneath.

Hieracium Pilosella, *E. B.* 1093. *Smith* III. 356. *Lindley* 159. *Hooker ed.* 2. 344. *ed.* 3. 349. *Macreight* 144.

Few plants are more common on dry, exposed places, gravelly banks, and pastures. A creeping species of much beauty, producing its bright lemon-coloured flowers from May to August. Leaves spreading close to the ground, light green above, dense white with a downy covering beneath. Whole herb sprinkled with rigid hairs. Perennial.

** *Stem leafless or nearly so; many-headed.*

HIERACIUM DUBIUM. *Branching Mouse-ear Hawkweed.* TAB. **1083.**

Scyons creeping, elongated. Stem nearly smooth, leafless, unless toward the base; loosely corymbiferous. Leaves elliptical-lanceolate, nearly entire, besprinkled with long hairs; rather glaucous beneath. Involucrum bristly.

Hieracium dubium, *E. B.* 2332. *Smith* III. 356. *Lindley* 159. *Hooker ed.* 2. 344. *ed.* 3. 349. *Macreight* 144.

Rare. Said to have been found in mountainous districts in Westmoreland and Scotland. A tall, slender plant, somewhat approaching *H. Pilosella* in habit, but well distinguished by its stature, longer and narrower leaves, and smaller corymbose instead of solitary flowers. Perennial. Flowers in July.

HIERACIUM AURICULA. *Orange Mouse-ear Hawkweed.* TAB. **1084.**

Scyons short. Stem leafless, scape-like, hairy; densely corymbiferous. Leaves lanceolate, acute, nearly entire, coarsely hairy; green on both sides. Involucrum shaggy.

Hieracium Auricula, *E. B.* 2368. *Smith* III. 357. *Lindley* 159. *Hooker ed.* 2. 344. *ed.* 3. 349. *Macreight* 144.

Noticed as being a native by Hudson, who gathered it on Dalehead, not far from Grassmere, Cumberland. The figure is from an exotic specimen. Perennial. Flowers in July.

HIERACIUM AURANTIACUM. *Orange Hawkweed.* TAB. **1085.**

Scyons creeping. Stem nearly leafless, hairy, densely corymbiferous. Leaves elliptical, acute, entire; rough with hairs. Flowers numerous. Involucrum shaggy.

Hieracium aurantiacum, *E. B.* 1469. *Smith* III. 358. *Lindley* 159. *Hooker ed.* 2. 344. *ed.* 3. 349. *Macreight* 144.

Met with in woods in several parts of the north of England and in Scotland, but rather to be regarded as a naturalized than as an indigenous plant. In gardens it has long been cultivated, and is well known since the time of old Gerarde by its vulgar name of "Grim the Collier," bestowed in allusion to the smutty hue communicated to the inflorescence by the long black, glandular hairs investing the stems and involucra. Stems 12 to 18 inches high, generally with 1 or 2 small leaves or bracteas; terminating in a close-set corymbus of rather large, deep orange-coloured flowers, produced in succession through the summer. Perennial.

*** *Stem few-leaved; many-headed.*

HIERACIUM Lawsoni. *Glaucous hairy Hawkweed.* Tab. **1086.**

Hairy. Stem remotely and simply branched, solid, few-leaved. Radical leaves elliptical-lanceolate, tapering into a petiole; glaucous, fringed, nearly entire. Peduncles and involucra set with black glandular hairs.

Hieracium Lawsoni, *E. B.* 2083. *Smith* III. 363. *Lindley* 160. *Hooker ed.* 2. 344. *ed.* 3. 350. *Macreight* 145.

Not unfrequent on the mountains of Westmoreland, Wales and Scotland. Stem about a foot high, seldom with more than 1 or 2 sessile leaves; divided into a few long, distant branches, each terminated by a largish yellow flower. Leaves flaccid, villous, with soft, silky hairs; entire or slightly and distantly toothed. Perennial. Flowers about August.

HIERACIUM pulmonarium. *Lungwort Hawkweed.* Tab. **1087.**

Hairy. Stem somewhat corymbose, 2-to 6-flowered, solid, few-leaved. Radical leaves lanceolate, tapering into a petiole, deeply and unequally toothed and sinuated; teeth pointing forward.

Hieracium pulmonarium, *E. B.* 2307. *Smith* III. 362. *Lindley* 160. *Hooker ed.* 2. 345. *ed.* 3. 350. *Macreight* 145.

A native of moist rocky places in the mountainous valleys of Scotland. Stem about a foot high, with 1 or 2 sessile leaves. Leaves all more or less toothed and jagged, very hairy, especially the petioles; spotted and clouded with faint tints of purplish-brown. Flowers in August. Perennial.

Possibly only a variety of the preceding or following species, but specific distinctions are yet very far from being correctly ascertained throughout this extensive genus.

HIERACIUM murorum. *Wall Hawkweed.* Tab. **1088.**

Hairy. Stem corymbose, bearing a single petiolated leaf. Leaves ovate or cordate; wavy, with radiating teeth toward the base.

Hieracium murorum, *E. B.* 2082. *Smith* III. 359. *Lindley* 159. *Hooker ed.* 2. 345. *ed.* 3. 351. *Macreight* 145.

Rather common in dry woods, and on old walls and rocks, greatly varying in size according to its situation, from a few inches to 2 feet in height, and likewise in the degree of pubescence and toothing of the leaves. Flowers of a full, deep yellow; produced in August. Perennial.

**** *Stem many-leaved; many-headed.*

HIERACIUM SYLVATICUM. *Wood Hawkweed.* TAB. **1089.** & **1090.**

Stem branched upwards, sub-corymbose, many-leaved, solid. Leaves ovato-lanceolate, toothed chiefly about the base; the teeth pointing upwards.

Hieracium sylvaticum, *E. B.* 2031. *Smith* III. 361. *Lindley* 160. *Hooker ed.* 2. 345. *ed.* 3. 350. *Macreight* 145.

β. Stem hollow. Leaves spotted with dark purple; more largely toothed. Tab. **1090.** H. maculatum, *E. B.* 2121. *Lindley* 159.

Frequent in dry woods, and on old walls and rocks, rising to the height of 1 or 2 feet, and flowering in July and August. It is a very variable plant, seldom so exceedingly hairy as our figure expresses, and sometimes with the stem nearly smooth.

The var. β. has larger flowers and leaves of a darker green, and, with the exception of the leafy stem, resembles *H. murorum* rather than the present species; but so arbitrary are the sectional characters, that it is even doubtful how far the former and its associates may be entitled to their present rank.

H. maculatum is not unfrequent in some parts of the north of England and in Scotland, presenting grades of approximation which will not admit of our retaining it as a distinct species. Perennial.

HIERACIUM PALUDOSUM. *Succory-leaved Hawkweed.* TAB. **1091.**

Stem hollow, panicled. Leaves smooth, oblongo-ovate, acute, toothed; embracing the stem with their heart-shaped bases. Scales of the involucrum clothed with black bristles.

Hieracium paludosum, *E. B.* 1094. *Smith* III. 363. *Lindley* 160. *Hooker ed.* 2. 346. *ed.* 3. 351. *Macreight* 145.

Frequent in moist shady and rocky places, and wet woods in the north of England, Wales, and Scotland. Whole plant smooth, the involucrum excepted. Stem angular, 2 to 3 feet high. Leaves with rather distant, deflexed teeth or serratures, oval-spear-shaped, stem-clasping. Florets bright yellow. Perennial. Flowers in July and August.

A well-marked species. Herb intensely bitter.

HIERACIUM MOLLE. *Soft-leaved Hawkweed.* TAB. **1092.**

Stem hollow, panicled. Leaves lanceolate, slightly toothed, hairy, stem-clasping; lower ones elliptical, obtuse, stalked.

Hieracium molle, *E. B.* 2210. *Smith* III. 364. *Lindley* 160. *Hooker ed.* 2. 346. *ed.* 3. 351. *Macreight* 145.

Not uncommon in woods in the north of England and south of Scotland. Whole plant pubescent. Stem angular, 1 to 2 feet high. Lower leaves tapering into long, bordered foot-stalks. Peduncles and involucra viscid with glandular hairs. Florets yellow. Perennial. Flowers in July and August.

HIERACIUM cerinthoides. *Honey-wort-leaved Hawkweed.* Tab. **1093**.

Stem solid, corymbose. Leaves hairy, obscurely toothed; the upper ones oblong, half stem-clasping; the radical ones oblongo-obovate, petiolate. Involucrum hairy.

Hieracium cerinthoides, *E. B.* 2378. *Smith* III. 365. *Lindley* 160. *Hooker ed.* 2. 346. *ed.* 3. 351. *Macreight* 145.

Not uncommon in rocky places in the Highlands of Scotland. Stem hairy, glandular upwards, 2 feet high. Leaves rather glaucous, fringed and clothed, especially on the middle-rib and foot-stalks, with long, slender hairs. Flowers rather large, bright yellow: they expand about August. Perennial.

HIERACIUM amplexicaule. *Amplexicaul Hawkweed.* Tab. **1093***.

Glanduloso-pilose. Stem corymbose. Leaves toothed; radical ones oblongo-ovate, petiolate; cauline ones cordate at the base and amplexicaul.

Hieracium amplexicaule, *E. B. Supp.* 2690. *Hooker ed.* 2. 346. *ed.* 3. 351. *Macreight* 145.

Grows on the Clova mountains, and on the castle of Cleish, Kinross-shire, Scotland; likewise on the walls of the Oxford Botanic Garden. Whole herb clothed with brownish glandular hairs. Stem 6 inches to a foot high. Leaves regularly but distantly toothed. Flowers sub-corymbose, yellow; produced in August. Perennial.

HIERACIUM sabaudum. *Shrubby, broad-leaved Hawkweed.* Tab. **1094**.

Stem erect, very leafy, many-flowered. Leaves ovato-lanceolate, sharply toothed, half embracing the stem, hairy beneath; the lower ones elliptical-lanceolate.

Hieracium sabaudum, *E. B.* 349. *Smith* III. 367. *Lindley* 160. *Hooker ed.* 2. 347. *ed.* 3. 352. *Macreight* 145.

Frequent in woods and thickets, where it grows to the height of 2 or 3 feet, and flowers from July to September. Stem strong and woody; branched and more or less panicled at the upper part. Leaves dark green and nearly smooth above, very hairy and whitish beneath; sharply but distantly toothed. Perennial.

HIERACIUM denticulatum. *Small-toothed Hawkweed.* Tab. **1095**.

Stem erect, solid, many-flowered. Leaves sessile, elliptical-lanceolate, finely toothed, nearly smooth, glaucous beneath. Peduncles glandular and cottony.

Hieracium denticulatum, *E. B.* 2122. *Smith* III. 368. *Lindley* 161. *Hooker ed.* 2. 346. *ed.* 3. 352. *Macreight* 145.

A native of woods in some parts of Scotland, but not very frequent. Stem 3 feet high, hispid, round, striated. Leaves thin, tapering at the base, never amplexicaul; the margin set with small, glandular teeth; glaucous beneath. Flowers yellow, in a terminal corymbus-like panicle; involucra brown, rather viscid as well as the peduncles. Perennial. Flowers in August.

Nearly allied to the next species, with which it was confounded in *Flora Brit.*

HIERACIUM PRENANTHOIDES. *Rough-bordered Hawkweed.* TAB. **1096.**

Stem erect, solid, many-flowered. Leaves somewhat toothed, rough near the margin, glaucous beneath; stem-clasping: the lower ones elliptical-oblong, the upper ones cordate. Panicle corymbose, with hispid and glandular stalks.

Hieracium prenanthoides, *E. B.* 2235. *Smith* III. 368. *Lindley* 161. *Hooker ed.* 2. 347. *ed.* 3. 352. *Macreight* 145.

Rare, on the margins of rivers in Scotland. The stem rises to the height of 3 or 4 feet. Leaves all cordate at the base and stem-clasping, gradually smaller upwards; rough with bristles toward the edges, whence the English name. Flowers yellow; produced in August. Perennial.

HIERACIUM UMBELLATUM. *Narrow-leaved Hawkweed.* TAB. **1097.**

Stem erect, simple, very leafy. Leaves linear-lanceolate, nearly smooth, slightly toothed. Peduncles subumbellate, downy. Involucrum smooth.

Hieracium umbellatum, *E. B.* 1771. *Smith* III. 369. *Lindley* 161. *Hooker ed.* 2. 347. *ed.* 3. 352. *Macreight* 145.

Frequent in dry gravelly woods and stony or rocky places, rising to the height of 2 or 3 feet, and flowering in August and September. Stem leafless at the lower part. Leaves very variable as to breadth, smoothness, and toothing in different soils and situations. Inflorescence rather corymbose than umbellate. Flowers rather large, yellow. Perennial. One of the most decidedly distinct species of its genus. *H. sabaudum* in some situations resembles it in habit, but cannot by any means be mistaken for it.

GENUS CCCCIII. CREPIS. *Hawk's-beard.*

GEN. CHAR. *Involucrum* tumid at the base, surrounded by deciduous scales; when in fruit usually ribbed and furrowed. *Receptacle* naked. *Pappus* simple, sessile, snowy white.

Weeds of small account, chiefly European. They have toothed or pinnatifid leaves and yellow flowers. Most of the species are annual.

CREPIS TECTORUM. *Smooth Hawk's-beard.* TAB. **1098.**

Stem smooth. Radical leaves runcinate; upper ones linear-lanceolate, toothed, stem-clasping. Panicle subcorymbose. Involucrum pubescent.

Crepis tectorum, *E. B.* 1111. *Smith* III. 372. *Lindley* 158. *Hooker ed.* 2. 348. *ed.* 3. 352. *Macreight* 143.

Very common in dry meadows, pastures, waste ground, and on walls and cottage roofs throughout the kingdom, varying greatly in size and luxuriance, from a few inches to 2 or 3 feet in height. Stem rather slender, more or less branched, purple at the joints. Leaves smooth, bright green; their teeth and segments not always runcinate. Panicle dichotomous. Flowers small; they come out from June to September. Annual.

CREPIS BIENNIS. *Rough Hawk's-beard.* TAB. **1099.**

Leaves runcinato-pinnatifid; their lobes toothed in front. Involucrum downy, somewhat bristly.

Crepis biennis, *E. B.* 149. *Smith* III. 373. *Lindley* 158. *Hooker ed.* 2. 348. *ed.* 3. 353. *Macreight* 143.

A native of dry chalky pastures, chiefly in the south of England. Stem branched above, 2 to 4 feet high, angular, rough. Root leaves petiolate, somewhat lyrate; those of the stem sessile, half amplexicaul; all rough with bristles. Flowers rather large, forming a corymbus-like panicle. Pappus very white; the elongated fruit gives it the appearance at first sight of being stalked. Biennial. Flowers in June and July.

GENUS CCCCIV. BORKHAUSIA. *Borkhausia.*

GEN. CHAR. *Involucrum* oval, with deciduous scales at the base; ribbed and furrowed when in fruit. *Receptacle* naked or slightly hairy. *Pappus* nearly simple, stalked.

The habit of *Crepis*, from which it chiefly differs in the pappus being stipitate. Herbs mostly annual or biennial, generally regarded as mere weeds. Most of the species are distributed around the basin of the Mediterranean. Flowers yellow, except in *B. rubra*.

BORKHAUSIA FŒTIDA. *Stinking Borkhausia, or Hawk's-beard.* TAB. **1100.**

Stem hairy. Leaves runcinato-pinnatifid, hairy, sessile. Involucrum downy.

Crepis fœtida, *Linn. E. B.* 406. *Smith* III. 370. Borkhausia fœtida, *De Cand. Lindley* 158. *Hooker ed.* 2. 348. *ed.* 3. 353. *Macreight* 143.

It occurs but seldom, in dry chalky districts in the eastern counties of England. Stems spreading, erect only in flower. Radical leaves spreading in the form of a star, deeply wing-cleft, with toothed runcinate segments. Florets reddish on the outside. Pappus stalk twice as long as the fruit. Biennial. Flowers in June and July.

The herb abounds in milky juice, and has a strong odour, which some have compared to that of bitter almonds, but it is too nauseous, and resembles rather that of *Lactuca virosa*, with which this plant may agree in properties.

Genus CCCCV. HYPOCHŒRIS. *Cat's-ear.*

Gen. Char. *Involucrum* oblong, imbricated. *Receptacle* chaffy. *Pappus* feathery, stipitate or sessile.

European herbs with toothed radical leaves and yellow flowers. They are not of any economical importance.

HYPOCHŒRIS maculata. *Spotted Cat's-ear.* Tab. **1101.**

Scape solitary, generally simple and single-flowered, hairy. Leaves ovato-oblong, bluntish, undivided, toothed.

Hypochœris maculata, *E. B.* 225. *Smith* III. 375. *Lindley* 161. *Hooker ed.* 2. 348. *ed.* 3. 353. Achyrophorus maculatus, *De Cand. Macreight* 140.

Occasionally met with in open chalky and limestone pastures, flowering in July and August. Scape with a few small bracteas, mostly 1-flowered, but when luxuriant 3-to 5-flowered. Leaves all radical, irregularly toothed, rough, spotted on the upper surface with reddish brown. Flowers deep yellow. Perennial.

HYPOCHŒRIS glabra. *Smooth Cat's-ear.* Tab. **1102.**

Nearly smooth. Stems branched, somewhat leafy. Leaves toothed or sinuated. Involucrum oblong, regularly imbricated.

Hypochœris glabra, *E. B.* 575. *Smith* III. 375. *Lindley* 161. *Hooker ed.* 2. 348. *ed.* 3. 353. *Macreight* 140.

Rather unfrequent than otherwise in dry gravelly or sandy pastures, varying according to circumstances from a few inches to a foot or more in height. Leaves mostly radical, oblong, blunt, nearly smooth, shining; sometimes a little hairy. Involucrum glaucous, the scales tipped with purple. Flowers small. Chaff of the receptacle lanceolate, deciduous. Pappus of the central florets stalked, that of the circumference sessile. Flowers in July and August. Annual. Herb very milky and bitter.

HYPOCHŒRIS radicata. *Long-rooted Cat's-ear.* Tab. **1103.**

Stems branched, naked, smooth. Leaves runcinate, obtuse, rough. Peduncles scaly. Pappus of all the florets stalked.

Hypochœris radicata, *E. B.* 831. *Smith* III. 376. *Lindley* 161. *Hooker ed.* 2. 348. *ed.* 3. 353. Achyrophorus radicatus, *De Cand. Macreight* 140.

A very common weed in meadows, pastures, and waste ground, flowering from June to September. The roots penetrate deeply into the soil, and the root leaves spreading horizontally close to the surface, so as to prevent the growth of the grass, render it a very troublesome intruder. The stems, or rather scapes, are smooth and glaucous, more or less panicled above; the peduncles beset with small adpressed, scaly bracteas, and a little swollen towards the summit. Flowers large, bright yellow. Pappus stalked on the ripe fruit. Perennial.

GENUS CCCCVI. LAPSANA. *Nipple-wort.*

GEN. CHAR. *Involucrum* with small scales at the base; the inner ones equal, linear-lanceolate. *Receptacle* naked. *Fruit* quickly deciduous. *Pappus* wanting.

A small genus of herbs belonging to Europe and northern Asia. The shape of the flower-buds, in the days of signature medicine, pointed out the common species as a remedy for sore nipples, hence its vulgar name. Flowers yellow.

LAPSANA COMMUNIS. *Common Nipple-wort.* TAB. **1104.**

Stem panicled. Leaves ovate, petiolate, toothed. Peduncles slender. Involucrum of the fruit angular.

Lapsana communis, *E. B.* 844. *Smith* III. 376. *Lindley* 157. *Hooker ed.* 2. 349. *ed.* 3. 353. *Macreight* 139.

A common weed in cultivated ground, and on hedge-banks and road-sides, rising to the height of 2 or 3 feet and flowering in July and August. Leaves soft and flaccid, a little hairy; the radical ones often lyrate. Heads small, with few florets. Fruit destitute of pappus. Annual.

LAPSANA PUSILLA. *Dwarf Nipple-wort. Swine's Succory.* TAB. **1105.**

Leaves oblongo-obovate, toothed, rough-edged. Scapes branched. Peduncles thickened upwards, fistulose.

Hyoseris minima, *Linn. E. B.* 95. Lapsana pusilla, *Smith* III. 377. *Lindley* 157. *Hooker ed.* 2. 349. *ed.* 3. 354. Arnoseris pusilla, *De Cand. Macreight* 139.

Barren sandy or gravelly heaths and corn-fields occasionally present this species, well charactered by its remarkably swollen peduncles, which are hollow at the upper part. Scapes 6 or 8 inches high, simple or branched, several springing from the same root. Flowers small, bright yellow. Fruit generally destitute of pappus, but crowned with the rudimentary calyx in the form of an elevated scaly rim. Annual. Flowers in June and July.

Genus CCCCVII. CICHORIUM. *Succory.*

Gen. Char. *Involucrum* of 8 united scales, surrounded at the base by 5 smaller ones. *Receptacle* naked or slightly hairy. *Pappus* sessile, scaly, shorter than the fruit.

A few species of herbaceous plants with axillary blue flowers compose this genus, which is distributed over the temperate and warmer regions of Europe and Asia. They are all esculent, though possessing the milky juice and bitter flavour of the natural section to which they give name. *C. Endivia*, the common Endive of the garden, is a well-known salad, believed to have been originally introduced from the East Indies; the bitterness of its foliage is much lessened by cultivation in a rich soil, and it is rendered still more palatable by blanching: by some botanists it has been considered a mere variety of our indigenous species, *C. Intybus*.

CICHORIUM Intybus. *Wild Succory.* Tab. **1106**.

Leaves runcinate. Flowers sessile, axillary, in pairs.

Cichorium Intybus, *E. B.* 539. *Smith* III. 379. *Lindley* 162. *Hooker ed.* 2. 349. *ed.* 3. 354. *Macreight* 140.

In gravelly or more especially in chalky or calcareous soils this plant is often abundant on waste ground, road-sides, and the borders of fields. Stems 2 to 3 feet high, branched. Flowers numerous, large, handsome, bright blue, sometimes white. Scales of the pappus very short. Fruit angular. Perennial. Flowers from July to September.

The herbage is valuable as fodder for cows and horses, and is said to increase greatly the milk of the former. It is cultivated on the continent, where the leaves are eaten as salad and the roasted roots used as a substitute for coffee, or mingled with it to œconomize its consumption, and, as some consider, to improve its flavour.

** *Corollas all tubular; generally forming hemispherical heads.* Cynarocephalæ. Plants bitter, neither milky nor narcotic.

Genus CCCCVIII. ARCTIUM. *Burdock.*

Gen. Char. *Involucrum* globose, imbricated; each of its scales terminating in an incurved hook. *Receptacle* chaffy. *Pappus* simple, short, persistent.

European herbs with broad, rough, petiolate leaves, and purple flowers. About 4 species are known. All biennials.

ARCTIUM Lappa. *Common Burdock. Clot-Bur.* Tab. **1107**.

Leaves wavy. Involucrum smooth (not cottony).

Arctium Lappa, *E. B.* 1228. *Smith* 380. *Hooker ed.* 2. 349. *ed.* 3. 354. Lappa glabra, *Lindley* 154. *Macreight* 139.

Common in neglected meadows and waste places, and on road-sides. Stem erect, with spreading branches, so as to have a somewhat pyramidal appearance, 3 or 4 feet high, furrowed, downy. Leaves cordate, a little toothed, with channeled petioles, white and downy beneath ; the lower ones in favourable situations very large. Flowers nearly sessile, axillary about the upper part of the stem and branches. The hooked scales of the involucrum adhering to the hides of passing animals favour the dispersion of the fruit when ripe. Biennial. Flowers in July and August.

In the north of Europe the roots and young shoots are used as pot-herbs. The seeds were formerly employed in medicine as a diuretic, and a decoction of the root lauded as a substitute for Sarsaparilla.

ARCTIUM TOMENTOSA. *Downy-headed Burdock.* TAB. **1108.**

Leaves plane. Involucrum cottony or with a cobweb-like down when in fruit.

Arctium Bardana, Willdenow. *E. B.* 2478. *Smith* III. 381. Lappa tomentosa, *Lindley* 154. *Macreight* 139. A. Lappa, var. *β. Hooker ed.* 2. 349. *ed.* 3. 354.

About as frequent as the last in similar situations, often growing with it, therefore not a variety occasioned by difference of soil or situation, though probably intermediate grades may occur owing to mutual impregnation, as between some other annual or biennial plants of approximate species. Flowers in July and August.

GENUS CCCCIX. SERRATULA. *Saw-wort.*

GEN. CHAR. Diœcious. *Involucrum* oblong, imbricated with unarmed, acute scales. *Receptacle* chaffy or bristly. *Fruit* obovate. *Pappus* persistent, the hairs rigid, in 3 or 4 rows, the innermost row longest.

Herbs with sharply serrated, pinnatifid or entire leaves and purple flowers. Natives of Europe and the temperate and colder parts of Asia.

SERRATULA TINCTORIA. *Common Saw-wort.* TAB. **1109.**

Leaves pinnatifid, with fine bristle-pointed serratures; somewhat lyrate, the terminal segment largest.

Serratula tinctoria, *E. B.* 38. *Smith* III. 382. *Lindley* 154. *Hooker ed.* 2. 349. *ed.* 3. 354. *Macreight* 139.

Common in woods, thickets, and hedges. Stem 2 or 3 feet high, angular, rigid, branched. Leaves sometimes nearly entire, the sharp serratures excepted. Flowers dull purple; outer scales of the involucrum ovate, the inner ones linear, and coloured. Anthers never bristly. Perennial. Flowers in August and September. Employed in Sweden as a yellow dye for woollen cloths, hence the specific name.

GENUS CCCCX. SAUSSUREA. *Saussurea.*

GEN. CHAR. *Involucrum* oblong, imbricated with unarmed scales. *Receptacle* bristly or chaffy. *Anthers* bristly below. *Pappus* sessile, in 2 rows; the outer row of short, rough bristles; the inner, long, feathery.

Perennial herbs with purple flowers and an inflorescence more or less aggregated. Habit, that of the last genus, with which most of the species were originally confounded. Natives of Europe and northern Asia.

SAUSSUREA ALPINA. *Alpine Saussurea.* TAB. **1110.**

Leaves undivided, distantly toothed, cottony beneath, lanceolate. Flowers in an umble-like cluster.

Serratula alpina, *Linn.* *E. B.* 599. *Smith* III. 383. Saussurea alpina, *De Cand.* *Lindley* 152. *Hooker ed.* 2. 349. *ed.* 3. 354. *Macreight* 136.

Moist alpine rocks in Wales and the Highlands of Scotland, especially the latter, frequently afford this species, whose simple, woolly stem rises generally to the height of 8 or 10 inches, terminating in a dense tuft of erect purple flowers. Radical leaves ovato-lanceolate, petiolate; cauline ones sessile, seldom more than 2 or 3. Involucrum clothed with a fine down. Perennial. Flowers in August.

GENUS CCCCXI. CARDUUS. *Thistle.*

GEN. CHAR. *Involucrum* tumid, imbricated; the scales simple, terminating in a spine. *Receptacle* hairy. *Pappus* deciduous, pilose; united into a ring at the base.

Spinous herbs with purple flowers and generally decurrent leaves. The species of this genus and the 4 following, *Silybum*, *Cnicus*, *Onopordum*, and *Carlina*, are among the most frequent and troublesome, though at the same time the most magnificent weeds of the northern hemisphere. Not any of them have yet been applied to œconomical purposes. They are rarely eaten by cattle, probably owing to their bitter flavour and spiny foliage.

CARDUUS NUTANS. *Musk Thistle.* TAB. **1111.**

Leaves decurrent, spinous. Flowers drooping. Scales of the involucrum lanceolate, cottony; outer ones drooping.

Carduus nutans, *E. B.* 1112. *Smith* III. 384. *Lindley* 155. *Hooker ed.* 2. 350. *ed.* 3. 355. *Macreight* 138.

Not uncommon in waste ground, and dry, barren pastures, especially in a chalky soil. Stem 2 or 3 feet high, striated, cottony; interruptedly winged and spinous with the decurrent bases of the leaves. Leaves oblong, deeply sinuated, notched and waved, green on both sides; the segments all terminating in sharp spines. Flowers large, solitary at the ends of the branches, deep reddish purple or crimson, smelling powerfully like musk towards evening in hot weather; they appear about July and August. Annual or biennial.

CARDUUS ACANTHOIDES. *Welted Thistle.* TAB. **1112.**

Leaves decurrent, sinuated, very spinous. Flowers aggregate, nearly sessile. Involucrum globose; its scales linear, partly recurved.

Carduus acanthoides, *E. B.* 973. *Smith* III. 385. *Lindley* 155. *Hooker ed.* 2. 350. *ed.* 3. 355. *Macreight* 138. C. crispus, *Hudson.* C. polyacanthos, *Curtis.*

Not unfrequent on road-sides, hedge-banks, and waste ground. A tall, handsome plant, 3 to 5 feet high, with terminal clusters of dark purple, or, rarely, white flowers. Stem branched, furrowed; closely beset with scalloped spiny wings, the decurrent bases of the leaves. Whole plant dark green and less hoary than *C. tenuiflorus.* Annual. Flowers in July.

Generally considered to be the emblematical thistle of Scotland: the motto " Nemo me impune lacessit " will scarcely apply to any species of the tribe with greater justice; but by some the honour of representing our sister kingdom is bestowed on the Milk-Thistle, *Silybum Marianum,* although the latter plant is so rare in North Britain that it can scarcely be esteemed indigenous there. In a garden this species has been known to attain the height of 8 feet.

CARDUUS TENUIFLORUS. *Slender-flowered Thistle.* TAB. **1113.**

Leaves decurrent, sinuated and pinnatifid, spinous; somewhat cottony beneath. Flowers aggregate, sessile. Involucrum nearly cylindrical; its scales lanceolate, erect.

Carduus tenuiflorus, *E. B.* 412. *Smith* III. 385. *Lindley* 156. *Hooker ed.* 2. 350. *ed.* 3. 355. *Macreight* 138.

Frequent in waste places, especially on a sandy soil. Stem 2 to 4 feet high, branched, winged throughout with the sinuated, strongly spinous, decurrent bases of the leaves. Leaves more or less glaucous and cottony beneath. Flowers small, erect, in sessile clusters; florets few, from 10 to 20, pale rose-coloured. Annual. Flowers in June and July.

GENUS CCCCXII. SILYBUM. *Milk-Thistle.*

GEN. CHAR. *Involucrum* tumid, imbricated; the scales leafy at the base, closely adpressed, the points spinous and spreading. *Receptacle* hairy. *Filaments* monadelphous. *Pappus* deciduous, between hairy and chaffy; united into a ring at the base.

A small genus of sharply spinous herbs with sessile leaves and purple or yellow flowers; nearly allied, at least, with *Carduus*, but distinguished by the monadelphous stamens, hence made by De Candolle and others the type of one of the subtribes of its natural order.

SILYBUM MARIANUM. *Milk-Thistle.* TAB. **1114**.

Leaves stem-clasping, waved, spinous; the radical ones pinnatifid. Scales of the involucrum subfoliaceous at the base, spinous, recurved and channeled above.

Carduus Marianus, *Linn.* *E. B.* 976. *Smith* III. 386. *Hooker ed.* 2. 350. *ed.* 3. 355. Silybum Marianum, *De Cand.* *Lindley* 154. *Macreight* 137.

Not unfrequent in waste places, on hedge-banks and road-sides throughout England, rising with a stately, widely branching, smooth and somewhat glaucous stem to the height of 4 or 5 feet, and producing its large, handsome, purple flowers in July. Root leaves spreading, more or less deeply pinnatifid; those of the stem cordate at the base and clasping; all waved and sinuated and spinous at the margin, of a deep glossy green, with milk-white veins which give them the appearance of being marbled, a character which in the days of monkish superstition was attributed to the milk of the Virgin Mary having fallen upon a plant of this species, whose descendants have retained the blessed stain, hence it is sometimes called Lady's Thistle and Holy Thistle. Biennial. Leaves occasionally all green.

The most magnificent native plant of the Thistle family, *Cnicus eriophorus* and *Onopordum* alone excepted, and well worthy a place in the flower garden and shrubbery.

GENUS CCCCXIII. CNICUS. *Plume-Thistle.*

GEN. CHAR. *Involucrum* tumid, imbricated; the scales with spinous points. *Receptacle* hairy. *Pappus* deciduous, feathery; united into a ring at the base.

Plants all herbaceous, generally spinous. Flowers purple, white, or yellow. The species are plentifully distributed over the northern hemisphere. The feathered (not hairlike) pappus essentially distinguishes the genus from *Carduus*.

* *Leaves decurrent. Stem winged.*

CNICUS LANCEOLATUS. *Spear Plume Thistle.* TAB. **1115**.

Stem hairy, furrowed. Leaves decurrent, hispid, pinnatifid; their segments spinous, variously spreading, generally bilobate. Involucrum ovate, shaggy; the scales lanceolate, spreading.

Carduus lanceolatus, *Linn.* *E. B.* 107. Cnicus lanceolatus, *Smith* III. 388. *Hooker ed.* 2. 350. *ed.* 3. 355. *Lindley* 152. Cirsium lanceolatum, *Scopoli, Macreight* 138.

One of the most common of our native thistles, abounding on waysides, banks, waste places, and neglected pastures. Stem 3 or 4 feet high, branched, interruptedly winged with the thorny bases of the decurrent leaves, hairy, and covered like the backs of the leaves and the involucrum with a cottony web. Leaves white beneath, dark green above, very strongly spinous. Flowers large, solitary, purple, chiefly expanding in July and August. Biennial.

CNICUS PALUSTRIS. *Marsh Plume-Thistle.* TAB. **1116.**

Leaves decurrent, pinnatifid, toothed, spinous, rough. Inflorescence clustered. Involucrum ovate; its scales ovato-lanceolate, nearly smooth, minutely spinous, appressed.

Carduus palustris, *Linn.* *E. B.* 974. Cnicus palustris, *Smith* III. 388. *Lindley* 152. *Hooker ed.* 2. 351. *ed.* 3. 356. Cirsium palustre, *Scopoli, Macreight* 138

Very frequent in marshy meadows, wet woods, and boggy heaths and commons, growing from 3 to 6 feet in height and flowering in July. Stem angular, winged with the decurrent leaves, often purple. Leaves rough, very dark green, deeply pinnatifid, sinuated and toothed; the margins thickly set with rather short spines. Flowers thickly clustered, deep purple, or very rarely white. Scales of the involucrum terminating in a short awn but scarcely spinous, broadly carinate. Annual or biennial.

** *Leaves sessile, or but partially decurrent. Stem not winged.*

CNICUS ARVENSIS. *Creeping Plume-Thistle.* TAB. **1117.**

Root creeping. Stem panicled, solid. Leaves sessile, pinnatifid, spinous, nearly smooth. Involucrum ovate; the scales appressed, mucronate.

Carduus arvensis, *E. B.* 975. Cnicus arvensis, *Smith* III. 389. *Lindley* 153. *Hooker ed.* 2. 351. *ed.* 3. 356. Cirsium arvense, *Lamarck. Macreight* 138. Serratula arvensis, *Linn.*

One of the most frequent and troublesome of its family, abounding on road-sides and in neglected pastures, from which it is difficult to eradicate on account of its deep and widely creeping roots. Stems from 1 to 3 feet high, angular. Leaves sessile, but not decurrent, very spinous. Scales of the involucrum broadly lanceolate, terminating in a short awn. Florets pale purple, or whitish. Perennial. Flowers in July. No other species can be confounded with it.

CNICUS FORSTERI. *Branching Bog Plume-Thistle.*

Stem panicled, hollow. Leaves slightly decurrent, pinnatifid, spinous, downy beneath. Involucrum ovate, rather cottony; the outer scales mucronate.

Cnicus Forsteri, *Smith* III. 390. *Lindley* 153. *Hooker ed.* 2. 351. *ed.* 3. 356. Cirsium Forsteri, *Macreight* 138.

A native of boggy places: found at the foot of St. George's Hill, Weybridge, and formerly in a wood near Frant, Sussex, about two miles from Tunbridge Wells. Perennial. Flowers in July and

August. Probably a hybrid production between *C. palustris* and *C. pratensis*, as suggested by Mr. Borrer, which may account for its rarity.

CNICUS ERIOPHORUS. *Woolly-headed Plume-Thistle.* TAB. **1118.**

Leaves sessile, pinnatifid, every alternate segment pointing upwards, spinous, rough. Involucrum spherical, woolly.

Carduus eriophorus, *Linn. E. B.* 386. Cnicus eriophorus, *Smith* III. 390. *Lindley* 153. *Hooker ed.* 2. 351. *ed.* 3. 356. Cirsium eriophorum, *Scopoli. Macreight* 138.

This stately thistle is not unfrequent on road-sides and waste places over chalk or limestone, producing its large, handsome heads of flowers in July and August. Stem very stout, furrowed, much branched, 3 to 4 feet high. Leaves spreading, deeply pinnatifid with 2 ranks of oblong, divaricated segments, alternately pointing upwards and downwards, and armed with very strong spines; their upper side rough with small adpressed bristles, the lower clothed with cottony down: radical ones often 2 feet long. Flower heads terminal, very large, 2 or 3 inches in diameter. Scales of the involucrum linear, mucronate, very numerous, spreading, thickly interwoven with a woolly substance. Florets slender, purple, rarely white. Biennial.

CNICUS TUBEROSUS. *Tuberous Plume-Thistle.* TAB. **1119.**

Root creeping, tuberous. Stem mostly single-flowered, neither winged nor prickly. Leaves deeply pinnatifid, lobed, fringed with prickles; lower ones petiolate. Scales of the involucrum mucronate, nearly smooth.

Cnicus tuberosus, *E. B.* 2562. *Smith* III. 391. *Lindley* 153. *Hooker ed.* 2. 351. *ed.* 3. 356. Cirsium bulbosum, *De Cand. Macreight* 138. Carduus tuberosus, *Linn.*

Discovered by A. B. Lambert, Esq., in a wood called Great Ridge between Boyton House and Fonthill, Wiltshire. Root widely creeping, the perpendicular fibres fleshy, knobbed. Stem 2 feet high, simple, or at most 2-flowered. Leaves variously cut, fringed with yellowish prickles, a little hairy; the lower ones on long, somewhat winged petioles. Flower-buds drooping. Florets bright purple. An ornamental species. Flowers in August.

CNICUS HETEROPHYLLUS. *Melancholy Plume-Thistle.* TAB. **1120.**

Root creeping. Stems downy, mostly single-flowered. Leaves semi-amplexicaul, lanceolate, ciliated with teeth; entire or laciniated; smooth above, densely cottony beneath.

Carduus heterophyllus, *Linn. E. B.* 675. Cnicus heterophyllus, *Smith* III. 397. *Lindley* 153. *Hooker ed.* 2. 352. *ed.* 3. 357. Cirsium heterophyllum, *De Cand. Macreight* 138.

Frequent on moist alpine pastures in the north of England and Scotland. Stem 2 or 3 feet high, generally simple, deeply striated.

Radical leaves petiolate; those of the stem few, sessile. Involucrum oblong, dark green; its scales lanceolate, keeled, acuminate, slightly mucronate. Florets dull purple. Though rather to be considered a handsome plant, both flowers and foliage have a very sombre hue, whence probably the provincial name. Perennial. Flowers in July and August.

CNICUS PRATENSIS. *Meadow Plume-Thistle.* TAB. **1121.**

Stems downy, mostly single-flowered. Upper leaves sessile, semi-amplexicaul, lanceolate, waved at the margin, toothed, and ciliated with small unequal spines; pubescent, cottony beneath. Involucrum cottony, with tapering, sharp scales.

Carduus pratensis, *Hudson. E. B.* 177. Cnicus pratensis, *Smith* III. 393. *Lindley* 153. *Hooker ed.* 2. 352. *ed.* 3. 357. Cirsium pratense, *De Cand. Macreight* 138.

Plentiful in wet pastures in various parts of England, but rather local than frequent. Root creeping. Stem striated, about a foot high. Leaves green above, cottony beneath, but not very white; chiefly about the base of the stem. Involucrum purplish, the scales closely imbricated. Florets dull purple. Perennial. Flowers in July.

CNICUS ACAULIS. *Dwarf Plume-Thistle.* TAB. **1122.**

Stemless. Involucrum cylindrical-ovate, nearly sessile, smooth; its scales closely adpressed, lanceolate, acute, not spinous.

Carduus acaulis, *Linn. E. B.* 161. Cnicus acaulis, *Smith* III. 394. *Lindley* 153. *Hooker ed.* 2. 352. *ed.* 3. 357. Cirsium acaule, *Allioni. Macreight* 138.

A frequent and troublesome weed in some parts of England, preferring dry gravelly or chalky pastures. Root very woody. Leaves spreading close to the ground in the form of a circle, and eradicating all other herbage: they are oblong, deeply pinnatifid, lobed, spinous, smooth, and of a deep glossy green. Flower central, generally solitary, large. Florets reddish-purple or crimson. Perennial. Flowers in July.

Cultivated in a garden, of which it is not unworthy, the stem is sometimes developed 3 or 4 inches high and bears several flowers.

GENUS CCCCXIV. ONOPORDUM. *Cotton-Thistle.*

GEN. CHAR. *Involucrum* tumid, imbricated; the scales spreading, with spinous points. *Receptacle* honey-combed. Fruit 4-cornered, furrowed transversely. *Pappus* hairy, united into a ring at the base, deciduous.

A small but stately genus of annual or biennial herbs, with large spinous leaves and purple or white flowers. Capitules solitary, terminal. The species are chiefly distributed in the countries bordering the Mediterranean. A few are stemless plants, but the remainder are the giants of the thistle tribe, some of them attaining the height of 10 or 12 feet.

ONOPORDUM Acanthium. *Common Cotton-Thistle.* Tab. **1123**.

Stem winged. Leaves ovato-oblong, sinuated, spinous, decurrent; woolly on both sides. Scales of the involucrum spreading, subulate.

Onopordum Acanthium, *E. B.* 977. *Smith* III. 395. *Lindley* 152. *Hooker ed.* 2. 352. *ed.* 3. 357. *Macreight* 137.

This truly magnificent thistle is far from unfrequent on waste ground, hedge-banks, and road-sides, in a chalky or gravelly soil, especially in the midland and southern counties of England, varying in stature according to circumstances, 4 or 5 feet being the ordinary height. The whole plant is white with a dense cottony web that is easily detached by rubbing. Stem branched towards the top; winged with the spinous, decurrent bases of the leaves. Spines very rigid, sharp, unequal. Involucrum large, erect, globose; its scales terminating in yellow spines. Florets purple. Receptacle truly chaffy, but having the scales connected so as to give it a cellular appearance resembling a honey-comb, the most important distinctive character of the genus. Flowers in August. Biennial.

The receptacle is very succulent and was formerly used as food like that of the artichoke, *Cynara Scolymus*, but the superior size of the latter has long since excluded it from the kitchen-garden. The seeds of this and other plants of the tribe are a favourite food of the goldfinch: they contain a considerable quantity of oil applicable for burning and other common purposes. According to M. Durand, 12℔s. of seed, the produce of 22℔s. of the flower-heads of the Onopordum, yield by expression, with the assistance of heat, no less than 3℔s. of pure oil.

Genus CCCCXV. CARLINA. *Carline Thistle.*

Gen. Char. *Involucrum* tumid, imbricated; the outer scales leaf-like, sinuous, very spiny; the inner ones long, linear, spreading, membranaceous, coloured, resembling radiate florets. *Receptacle* chaffy. *Pappus* feathery.

Spiny herbs with white or yellowish, seldom purple flowers. Natives exclusively of the eastern hemisphere. The name is a corruption of Carolina, and was bestowed on *C. acaulis*, a continental species, in honour of Charlemagne, to whom an angel is reported to have pointed out the root as a remedy to cure his army of the plague. Its virtues must have been due to a miracle, as at present it too nearly resembles the rest of its genus to produce such an effect.

CARLINA VULGARIS. *Common Carline-Thistle.* TAB. **1124**.

Stem pubescent, corymbose, many-flowered. Leaves lanceolate, sinuated, fringed with unequal spines, downy beneath.

Carlina vulgaris, *E. B.* 1144. *Smith* III. 397. *Lindley* 154. *Hooker ed.* 2. 352. *ed.* 3. 357. *Macreight* 136.

Common on dry sandy and chalky heaths and pastures, generally growing under the shelter of Ling, Furze, and the other low shrubs which affect a similar habitat. Stem from a few inches to a foot in height, furrowed, and more or less woolly. Leaves gradually lessening upwards, until they become confounded with the outer scales of the involucrum, very spinous. Inner scales of the involucrum linear, pale yellow, glossy, membranaceous, spreading like rays around the purplish florets: they resemble so nearly in texture the florets of *Gnaphalium, Xeranthemum*, and other genera of the next order, which from their imperishable character have received the general name of "Everlasting Flowers," that it is probable many a young botanist has been deceived by this plant at first sight, The base of each anther terminates in two bristle-like processes. Biennial. Flowers in June and July. Whole plant very rigid.

** *Corollas all tubular; erect and parallel, forming a level top.*

The genera of this section belong to the Corymbiferæ of Jussieu, and nearly resemble the non-radiate plants of the next order, *Superflua*.

GENUS CCCCXVI. BIDENS. *Bur-Marigold.*

GEN. CHAR. *Involucrum* double; the outer scales leafy, spreading. *Capitules* sometimes radiate. *Receptacle* chaffy, plane. *Pappus* of from 2 to 5 persistent awns, which are rough with minute, deflexed bristles.

The genus is very widely distributed in both hemispheres. Plants all herbaceous, mostly annual; the leaves generally divided; the flowers yellow, rarely white or red. All of the species are more or less acrid.

Perhaps the proper place of *Bidens* would be in the next order, because when radiate florets are present they are generally furnished with pistils only, but this rarely occurs in the British species: we therefore adopt its previous arrangement, as the arbitrary characters of the Syngenesious orders can only be serviceable inasmuch as they are applicable to the more common state of the plants assigned by them.

BIDENS CERNUA. *Nodding Bur-Marigold.* TAB. **1125**.

Leaves lanceolate, deeply serrated. Flowers drooping. Awns of the pappus 3 or 4.

Bidens cernua, *E. B.* 1114. *Smith* III. 399. *Lindley* 151. *Hooker ed.* 2. 353. *ed.* 3. 358. *Macreight* 128.

Not unfrequent on the sides of rivulets, in ditches and watery places, especially on a chalky soil. Stem rather hispid, branched, 1 or 2 feet high. Leaves undivided, smooth, deeply serrated, more or less stem-clasping. Flowers rather large, yellow, always drooping: the outer florets being sometimes ligulate and radiant give the plant such a different aspect that Linnæus regarded it as a *Coreopsis*, and named it, probably from a dried specimen, *C. Bidens*. Annual. Flowers from June to September.

BIDENS TRIPARTITA. *Trifid Bur-Marigold.* TAB. **1126**.

Leaves tripartite; lobes lanceolate, deeply serrated. Flowers rather drooping. Awns of the pappus 2 or 3.

Bidens tripartita, *E. B.* 1113. *Smith* III. 3. 399. *Lindley* 151. *Hooker ed.* 2. 353. *ed.* 3. 358. *Macreight* 128.

A very common plant in ditches and watery places, far more so than the preceding species, from which it is at once distinguished by its divided leaves. Stem 1 to 3 feet high, with spreading branches; smooth, as well as the leaves, which though usually tri- are sometimes quinque-partite. Flowers smaller than in *B. Cernua*. Outer leaves of the involucrum rather irregular. Florets yellow. Fruit mostly with 2 awns or teeth, whence the generic name *Bidens*. Annual. Flowers from July to September.

GENUS CCCCXVII. EUPATORIUM. *Hemp-Agrimony.*

GEN. CHAR. *Involucrum* oblong, imbricated. *Florets* few. *Receptacle* naked. *Pappus* feathery.

The genus is extensive, and consists of herbaceous plants and shrubs, the latter being all tropical. They have all opposite or verticillate leaves, a corymbose or panicled inflorescence, and generally white or purple, never yellow flowers. Most of the species are natives of America. They are bitter, more or less fragrant and aromatic, and several are reputed febrifugal.

EUPATORIUM CANNABINUM. *Common Hemp-Agrimony.* TAB. **1127**.

Leaves opposite, subpetiolate, with 3 or 5 deep, lanceolate, serrated segments.

Eupatorium cannabinum, *E. B.* 428. *Smith* III. 400. *Lindley* 142. *Hooker ed.* 2. 353. *ed.* 3. 358. *Macreight* 120.

Common on the banks of rivers and ditches, sending up several round, downy, branched stems 2 or 3 feet high, and flowering in July and August. Leaves somewhat pinnate, the terminal segment longest, deeply serrated, downy. Flowers very numerous, light reddish purple, in a dense, terminal corymbus. Florets 5 or 6 in each involucrum. Style deeply cloven, extending far out of the corolla. Perennial. Slightly aromatic.

GENUS CCCCXVIII. CHRYSOCOMA. *Goldylocks.*

GEN. CHAR. *Involucrum* imbricated, hemispherical. *Receptacle* naked, or but slightly honey-combed. *Pappus* hairy, the hairs rough. *Style* scarcely longer than the florets.

Shrubs in warm climates, erect, perennial herbs in colder ones. Flowers generally yellow.

CHRYSOCOMA LINOSYRIS. *Flax-leaved Goldylocks.* TAB. **1128.**

Herbaceous. Leaves linear, smooth, scattered. Scales of the involucrum loosely spreading.

Chrysocoma Linosyris, *E. B.* 2505. *Smith* III. 402. *Lindley* 142. *Hooker ed.* 2. 353. *ed.* 3. 358. Linosyris vulgaris, *Cassini*. *Macreight* 123.

Met with only in rocky clefts toward the southern coast of England, as at Berryhead, Devonshire, Whorle-hill, Somersetshire, and between Brighton and Shoreham, Sussex. Creeping somewhat at the root. Stems crowded, slender, erect, simple, smooth. Leaves very narrow, rather glaucous and fleshy. Flowers small, yellow, in a terminal corymbus ; they appear in August and September. Perennial. Occasionally planted in the flower-garden, but not ornamental.

GENUS CCCCXIX. DIOTIS. *Cotton-weed.*

GEN. CHAR. *Involucrum* hemispherical, imbricated. *Receptacle* convex, chaffy ; its scales fringed. *Pappus* wanting; (in its place the fruit is crowned by 2 persistent ear-like processes originally belonging to the corolla, whence the generic name, literally 2-eared.)

Herb covered with a snowy-white, cotton-like down. Flowers yellow, corymbose. A native of sandy sea-shores.

DIOTIS MARITIMA. *Sea-side Cotton-weed.* TAB. **1129.**

Santolina maritima, *Linn. MSS.* *E. B.* 141. Diotis maritima, *Smith* III. 403. *Lindley* 150. *Hooker ed.* 2. 353. *ed.* 3. 358. *Macreight* 129. Athanasia marit. *Linn. Sp. Pl.*

Found in tolerable abundance on the sandy sea-shores of some of the eastern and southern counties of England. The long, perennial roots run deep into the sand, throwing up several branched, bushy stems about a foot high, extremely brittle, round, and covered with numerous oblong, somewhat spathulate leaves, which are crenated on the margin, and as well as the stems and involucra are completely invested with a dense, white, cottony web or down. Flowers in a terminal corymbus; produced in August and September. Florets numerous, bright yellow; often half concealed by the cottony involucrum. Scales of the receptacle woolly at the tips.

The whole plant has a strong aromatic odour, is bitter to the taste, and possesses diuretic properties.

ORDER II. SUPERFLUA. (*Florets of the centre perfect; those of the circumference with pistils only: all bearing seed.*) Corymbiferæ.

* *Discoid. Corollas of the marginal florets obsolete or wanting.*

GENUS CCCCXX. TANACETUM. *Tansy.*

GEN. CHAR. *Involucrum* hemispherical, imbricated. *Receptacle* naked. *Florets* all tubular; those of the margin 3-cleft, obsolete, or wanting: the rest 5-cleft, perfect. *Pappus* obscure, forming a small membranous crown to the fruit.

Perennial herbs, or, in warm climates, shrubs. They have generally divided leaves, a corymbose or panicled inflorescence, and yellow, rarely red flowers. No species of the genus seems indigenous to the western hemisphere.

TANACETUM VULGARE. *Common Tansy.* TAB. **1130.**

Leaves bipinnatifid, deeply serrated, naked.

Tanacetum vulgare, *E. B.* 1229. *Smith* III. 405. *Lindley* 149. *Hooker ed.* 2. 353. *ed.* 3. 359. *Macreight* 151.

This is not an unfrequent plant on the borders of fields and roadsides, more especially in sandy and calcareous soils, and generally occurs in large patches, owing to its creeping roots. The stems rise from 1 to 3 feet, are little branched, angular, and without pubescence, though harsh and rough to the touch as well as the leaves, which are of a dark green hue. Flowers in a flat, cyme-like corymbus, dark yellow. Florets tabularly arranged; the outer pistiliferous ones often wanting and always short and inconspicuous. Pappus a 5-sided chaffy crown to the obovate fruit.

The Tansy was long since celebrated in domestic medicine as well as a culinary herb, but its use is now almost obsolete in this country. It is exceedingly bitter, combined with an aromatic quality that renders it both tonic and cordial, and it has still a place in our Materia Medica as a vermifuge. Tansy-pudding is celebrated in the annals of gastronomy, and was probably a more wholesome one, owing to the corrective property of the herb, than others which now occupy its place at our civic festivals. In Finland the young shoots are employed to dye green.

GENUS CCCCXXI. ARTEMISIA. *Wormwood. Southernwood. Mugwort.*

GEN. CHAR. *Involucrum* ovate or rounded, imbricated. *Receptacle* naked or hairy. *Florets* all tubular; those of the margin slender, entire; the rest 5-cleft, perfect. *Pappus* wanting.

An extensive genus, consisting of herbaceous plants and small shrubs, distributed in most parts of the world. They have generally alternate and much-divided leaves, and inconspicuous yellow, greenish, or brown flowers, disposed in panicles or racemes.

The plants are all bitter and aromatic, and are in repute in medicine for their tonic, febrifugal, and stomachic qualities, and are likewise employed as vermifuges.

ARTEMISIA CAMPESTRIS. *Field Southernwood.* TAB. **1131.**

Stems twiggy, procumbent before flowering. Leaves bipinnatifid, with linear segments, smooth above, silky beneath. Receptacle naked.

Artemisia campestris, *E. B.* 338. *Smith* III. 406. *Lindley* 149. *Hooker ed.* 2. 354. *ed.* 3. 359. *Macreight* 131.

A rare species, occurring only on dry sandy heaths in Norfolk and Suffolk, and chiefly in the neighbourhood of Thetford and Bury. Flowers drooping, racemose, dusky yellow; they appear in August. Perennial. Herb nearly scentless.

ARTEMISIA MARITIMA. *Sea Wormwood.* TAB. **1132.**

Erect. Leaves downy, bipinnatifid, with linear segments. Flowers oblong, in drooping racemes. Receptacle naked.

Artemisia maritima, *E. B.* 1706. *Smith* III. 407. *Lindley* 149. *Hooker ed.* 2. 354. *ed.* 3. 359. *Macreight* 131.

β. Racemes erect. Tab. **1132***. A. Gallica, *Wildenow*, *E. B. p.* 1706. A. maritima, *E. B. tab.* 1001.

Frequent on the sea-shore and in salt marshes. Whole plant clothed with a white or grayish cottony down. Stems panicled, a foot to 18 inches high. Leaves variable in the breadth of their segments. Flowers dusky yellow, or brownish; produced in September. Perennial.

The variety *β*. we have often found growing with the other, but never from the same root, and the difference of general character is so striking, both in its natural habitats and after many years cultivation, that we can scarcely avoid regarding it as a distinct species.

Both of these plants possess the medicinal qualities of the genus in a high degree.

ARTEMISIA ABSINTHIUM. *Common Wormwood.* TAB. **1133.**

Leaves bipinnatifid, clothed with a short silky down; their segments lanceolate, entire. Flowers hemispherical, drooping. Receptacle hairy.

Artemisia Absinthium, *E. B.* 1230. *Smith* III. 408. *Lindley* 149. *Hooker ed.* 2. 354. *ed.* 3. 359. *Macreight* 131.

Not unfrequent in waste places, chiefly in a dry, calcareous or gravelly soil, and especially about ancient villages and ruins; it being one of those old medicinal plants that, though generally esteemed indigenous, betray by their ordinary habitats their lingering attachment to the abodes of man, and that they were once dependents upon his will. Stems tufted, about a foot high, branched, furrowed, whitish with a similar down to that which clothes the leaves. Leaves irregularly bipinnatifid; the floral ones trifid or entire. Inflorescence panicled. Florets dingy yellow or buff. Perennial. Half-shrubby. Flowers in August.

One of the most intense and active of our pharmaceutical bitters. The flowers are not unfrequently used as a partial substitute for those of the hop in brewing, and are considered to impart an inebriating quality to the ale in which they are infused. The powerful odour of this and other species of *Artemisia* is obnoxious to the larvæ of moths and other insects that infest clothes and furniture.

ARTEMISIA VULGARIS. *Mugwort.* TAB. **1134.**

Leaves pinnatifid, white and downy beneath; their segments unequally cut. Flowers ovate. Receptacle naked.

Artemisia vulgaris, *E. B.* 978. *Smith* III. 409. *Lindley* 149. *Hooker ed.* 2. 354. *ed.* 3. 359. *Macreight* 131.

Common throughout the kingdom on hedge-banks, waste places, and road-sides. Stems 3 to 4 feet in height, smooth, angular, with purple ribs and striæ. Leaves dark green and smooth above, very white and cottony beneath; somewhat lyrate, especially the lower ones. Flowers panicled, the branches nearly simple. Florets reddish-purple, in some situations pale yellow, when the stem is green. Perennial. Flowers in August.

Herb nearly scentless and scarcely bitter. The down or cotton-like pubescence of the leaves is sometimes collected as tinder, and like that of *A. sinensis* is occasionally employed in surgery for cauterization under the name of Moxa.

ARTEMISIA CŒRULESCENS. *Lavender-leaved Mugwort.* TAB. **1135.**

Leaves hoary; most of them lanceolate, undivided, tapering at the base; lowermost variously lobed and pinnatifid. Flowers erect, cylindrical. Receptacle naked.

Artemisia cœrulescens, *E. B.* 2426. *Smith* III. 410. *Lindley* 149. *Hooker ed.* 2. 354. *ed.* 3. 359. *Macreight* 131.

A very doubtful native, introduced as a British plant on the authority of Hudson, whose correspondent, Mr. Tofield, avers to finding it upon the sea-shore near Boston, Lincolnshire. In Gerarde's time it seems to have grown on the Isle of Wight; but the modern botanist seeks it in vain in either habitat, although it is well known as a native of the more southern shores of Europe. Whole plant of a glaucous hue. Leaves mostly simple and somewhat resembling those of the Lavender; the lowermost only being cloven into 3 or more wing-like segments. Flowers in leafy, terminal panicles; they appear profusely in August and September. Florets yellow or brownish. Perennial.

GENUS CCCCXXII. GNAPHALIUM. *Cudweed.*

GEN. CHAR. *Involucrum* imbricated; the scales membranous, mostly coloured. *Receptacle* naked. *Florets* of the circumference awl-shaped; some of the central ones usually abortive. *Pappus* rough or feathery.

The plants of this widely-scattered genus are all more or less clothed with a soft down or wool. They are chiefly herbaceous, with simple leaves, and yellow, white, or reddish flowers: the latter are of a dry, membranous texture, and, retaining their living hues and aspect for years after gathering, several of the more showy species are in common language associated with those of *Xeranthemum*, *Helichrysum*, and other exotic genera which furnish our winter beaupots under the general name of "Everlasting flowers." The genus is variously divided by different botanists. The English name Cudweed originated in the supposition that these herbs provoked rumination in cattle.

* *Flowers diœcious.* (Antennaria, *Gærtner.*)

GNAPHALIUM MARGARITACEUM. *Pearly Everlasting. American Cudweed.* TAB. **1136**.

Herbaceous. Stems branched above. Leaves linear-lanceolate, acute, loosely cottony on the upper side, densely so beneath; alternate. Flowers corymbose, level-topped.

Gnaphalium margaritaceum, *E. B.* 2018. *Smith* III. 412. *Hooker ed.* 2. 355. *ed.* 3. 360. Antennaria margaritacea, *Lindley* 144. *Macreight* 133.

This handsome species, introduced to our gardens from North America, occurs in an apparently wild state in moist meadows and woods in several parts of England and Wales. Stems 1 to 3 feet high, cottony, terminating in a compound, level-topped corymbus. Scales of the involucrum opaque, pearly white. Florets yellow, slightly aromatic. Perennial. Flowers in August. In a light soil it spreads very widely from the root by means of its numerous suckers (*surculi*). When intended for winter ornament the flowers should be gathered before the expansion of the involucrum.

GNAPHALIUM DIOICUM. *Mountain Cudweed. Cat's-foot.* TAB. **1137**.

Shoots procumbent. Stems unbranched; terminating in a simple corymbus. Root-leaves spathulate. Inner scales of the involucrum elongated, obtuse, coloured.

Gnaphalium dioicum, *E. B.* 267. *Smith* III. 413. *Hooker ed.* 2. 354. *ed.* 3. 359. Antennaria dioica, *Lindley* 144. *Macreight* 133.

Frequent upon dry heaths in the mountainous parts of the kingdom. Shoots spreading and forming leafy patches, eventually woody and rooting. Flowering stems woolly, erect, 3 to 6 inches high, rising from the extremities of the shoots of the previous year. Leaves green above, white and densely cottony beneath. Flowers 4 to 8 in each corymbus, very much crowded, white or rose-colour, the latter hue usually indicating the female or fertile plant. Perennial. Flowers in June and July.

Antennaria hyperborea of Don, *E. B. Supp.* 2640, is only a northern variety of this, differing chiefly in the leaves being woolly on both sides. See TAB. **1137***.

** *Flowers perfect.*

GNAPHALIUM LUTEO-ALBUM. *Jersey Cudweed.* TAB. **1138**.

Leaves half stem-clasping, linear-oblong, waved, woolly on both sides; the lower ones obtuse. Flowers densely tufted.

Gnaphalium luteo-album, *E. B.* 1002. *Smith* III. 411. *Lindley* 145. *Hooker ed.* 2. 355. *ed.* 3. 360. *Macreight* 132.

A native of Jersey, but found likewise in dry sandy fields in Cambridgeshire and Norfolk. Stems branched and somewhat spreading at the base, about a foot high. Leaves with the margin rather revolute, alternate. Flowers numerous, forming dense terminal clusters. Involucrum pale yellow, shining. Florets red. Annual. Flowers in July and August.

GNAPHALIUM SYLVATICUM. *Highland Cudweed.* TAB. **1139**.

Stem simple, nearly erect, downy. Leaves lanceolate, tapering at the base, downy on both sides. Flowers axillary, sessile.

Gnaphalium sylvaticum, *E. B.* 913. *Smith* III. 414. *Lindley* 145. *Hooker ed.* 2. 355. *ed.* 3. 360. *Macreight* 132.

β. leaves nearly smooth above. G. rectum, *E. B.* 124. TAB. **1139***.

A frequent plant in Scotland in open mountainous pastures. The var. β can scarcely be esteemed distinct, the slight differences observable in the foliage and general habit being attributable to situation: it is met with in several parts of England, generally in light sandy soils, especially in the middle and eastern counties. The specific name is apt to mislead, as in our own experience it grows more frequently in open fields than in woods and thickets. Stems about 12 to 18 inches high. Leaves often nearly linear. Flowers in small axillary clusters, forming a terminal, interrupted, leafy spike. Scales of the involucrum oblong, glossy, with a more or less conspicuous brown border. Florets yellow. Perennial. Flowers in August.

GNAPHALIUM SUPINUM. *Dwarf Cudweed.* TAB. **1140.**

Stem decumbent, simple, or branched only at the base. Leaves linear, downy on both sides. Flowers solitary, or in a terminal, spike-like raceme.

Gnaphalium supinum. *E. B.* 1193. *Smith* III. 415. *Lindley* 145. *Hooker ed.* 2. 355. *ed.* 3. 360. *Macreight* 132. G. alpinum, *Lightfoot.*

Abundant on the summits of the Highland mountains, chiefly in a micaceous soil. Stems rising when in flower to the height of from 2 to 4 inches. Flowers few; in dwarf plants often solitary. Scales of the involucrum rather acute, brown. Florets yellow. Perennial. Flowers in July and August.

Surely distinct from the preceding, though nearly allied to it.

GNAPHALIUM ULIGINOSUM. *Marsh Cudweed.* TAB. **1141.**

Stem very much branched, spreading, cottony. Leaves linear-lanceolate, downy on both sides. Flowers in crowded leafy clusters terminating the branches.

Gnaphalium uliginosum, *E. B.* 1194. *Smith* III. 416. *Lindley* 145. *Hooker ed.* 2. 355. *ed.* 3. 360. *Macreight* 132.

Very common on a sandy or gravelly soil in spots where water occasionally lies. About a span in height, branched from the base, clothed with a white cottony down. Flowers 2 or 3 together, sessile in the axils of the upper leaves, and forming with them terminal spike-like clusters. Scales of the involucrum lanceolate, acute, glossy, yellowish-brown. Florets yellow. Annual. Flowers in August and September.

GNAPHALIUM GALLICUM. *Narrow-leaved Cudweed.* TAB. **1142.**

Stem erect, branched. Leaves linear, acute, somewhat revolute, downy. Flowers in crowded axillary and terminal clusters, which are much shorter than the leaves.

Gnaphalium Gallicum, *E. B.* 2369. *Smith* III. 417. *Hooker ed.* 2. 355. *ed.* 3. 361. Filago gallica, *Linn.* *Lindley* 145. *Macreight* 133.

Rare, in dry gravelly and sandy fields in several parts of the kingdom. Stem slender, about a span high, branched at the top in a dichotomous or corymbiform manner. Leaves scattered, clothed, especially on the under side, with a white silvery down. Scales of the involucrum downy, membranous at the tip. Florets few, brownish yellow. Annual. Flowers in July and August.

GNAPHALIUM MINIMUM. *Least Cudweed.* TAB. **1143.**

Stem erect, branched, dichotomous; the branches spreading. Leaves lanceolate, acute, flat, cottony. Flowers conical; in terminal and lateral clusters, which are longer than the leaves.

Gnaphalium minimum, *E. B.* 1157. *Smith* III. 417. *Hooker ed.* 2. 356. *ed.* 3. 361. Filago minima, *Lindley* 145. *Macreight* 132.

Plentiful in dry, barren, gravelly and sandy ground, varying according to circumstances from 2 to 6 or 8 inches in height. Stem slender, branched only above. Leaves nearly ovate, erect, and often adpressed. Flowers yellowish, sessile. Scales of the involucrum downy, broad at the base. Annual. Flowers in July and August.

GNAPHALIUM Germanicum. *Common Cudweed.* Tab. **1144.**

Stem erect, proliferous at the summit. Leaves lanceolate, acute, waved, downy. Heads globose, many-flowered, axillary and terminal.

Gnaphalium Germanicum, *E. B.* 946. *Smith* III. 418. *Hooker ed.* 2. 356. *ed.* 3. 361. Filago germanica, *Linn. Lindley* 145. *Macreight* 133.

Common in pastures and waste ground, especially in a dry sandy or gravelly soil. Stems erect, 6 to 9 inches high, very leafy, terminating at first in an almost globular head of ovate, sessile flowers; from beneath which soon spring 2 or 3 horizontal branches, that curve upward at the extremity and bear each a similar head of flowers; these are sometimes again proliferous. This curious mode of growth, the offspring, as it were, undutifully exalting themselves above the parent, procured for the plant, among the old herbarists, the name of *Herba impia,* or Wicked Cudweed. Scales of the involucrum yellowish-brown, shining, smooth, with a green rib and very acute, almost mucronate tip. Florets pale yellow. Annual. Flowers in June and July.

Genus CCCCXXIII. CONYZA. *Spikenard.*

Gen. Char. *Involucrum* roundish, imbricated. *Receptacle* naked. *Florets* of the circumference 3-toothed. *Pappus* hairy, rough.

Herbs or evergreen shrubs, various in habit, foliage, and flowers. More or less aromatic and bitter. The numerous species are widely distributed, but are chiefly tropical.

CONYZA squarrosa. *Ploughman's Spikenard.* Tab. **1145.**

Stem herbaceous. Leaves ovato-lanceolate, downy, crenate; the uppermost entire. Inflorescence corymbose. Scales of the involucrum leafy, recurved.

Conyza squarrosa, *E. B.* 1195. *Smith* III. 420. *Lindley* 142. *Hooker ed.* 2. 356. *ed.* 3. 361. Inula Conyza, *De Cand. Macreight* 124.

Frequent throughout England on chalky or calcareous soils. Whole herb soft to the touch, being clothed with a fine, downy pubescence. Stem erect, 2 to 3 feet high, leafy, angular. Leaves broadly lanceolate; the radical ones tapering into a petiole, and nearly resembling those of the Foxglove. Flowers numerous, in a terminal corymbiform panicle. Outer scales of the involucrum with green, recurved tips; inner ones nearly erect, purplish, ciliated. Florets yellow. Biennial. Flowers in September and October.

In common with some other plants of the order its odour is disagreeable to certain noxious insects; hence it has received the provincial names of Fly-bane and Flea-bane.

** *Radiate. Corollas of the margin or circumference ligulate, usually expanding like rays; florets of the centre or disk tubular.*

Genus CCCCXXIV. ERIGERON. *Flea-bane.*

Gen. Char. *Involucrum* imbricated; the scales linear, acute, very numerous. *Receptacle* naked. *Florets* of the circumference numerous, very narrow. *Pappus* hairy, simple.

Herbs, chiefly of temperate climates in both hemispheres. Flowers yellow in the disk, purple, blue, or white in the ray.

ERIGERON Canadensis. *Canada Flea-bane.* Tab. **1146.**

Stem hairy, erect. Leaves lanceolate; the lower ones a little toothed. Inflorescence panicled.

Erigeron Canadensis, *E. B.* 2019. *Smith* III. 421. *Lindley* 144. *Hooker ed.* 2. 356. *ed.* 3. 362. *Macreight* 122.

Occasionally met with on cultivated and waste ground and roadsides, but generally esteemed a half-naturalized rather than an indigenous plant. Stem very wiry, upright, furrowed, simple below, 6 inches to 2 feet high. Leaves nearly entire, acute. Flowers yellowish-white, very numerous, in a terminal, leafy, variously-branched panicle. Scales of the involucrum smooth, at length reflexed. Marginal florets erect. Annual. Flowers in August and September.

ERIGERON acris. *Blue Flea-bane.* Tab. **1147.**

Stem erect. Leaves lanceolate, obtuse. Inflorescence subracemose; peduncles mostly single-flowered. Pappus as long as the marginal florets.

Erigeron acris, *E. B.* 1158. *Smith* III. 422. *Lindley* 144. *Hooker ed.* 2. 356. *ed.* 3. 362. *Macreight* 122.

Dry gravelly or chalky pastures, waste places, road-sides, and old walls frequently present this species. Stem 12 to 18 inches high, furrowed, hairy, and of a purplish hue; terminating in a distant-flowered raceme. Leaves scattered, sessile, roughish; the lowermost tapering into a petiole, obovate and more or less serrated. Florets of the circumference purplish; those of the disk yellow. Pappus very long, tawny. Biennial. Flowers in August.

ERIGERON alpinus. *Alpine Flea-bane.* Tab. **1148.**

Stem mostly single-flowered. Leaves lanceolate. Outer florets radiate, twice as long as the pappus.

Erigeron alpinus, *E. B.* 464. *Smith* III. 423. *Lindley* 144. *Hooker ed.* 2. 357. *ed.* 3. 362. *Macreight* 122.

β. Involucrum woolly. Florets of the circumference erect. Tab. **1148***. E. uniflorus, *E. B.* 2416. *Smith* III. 423.

A native of the Highland mountains, especially of the Breadalbane range. It differs much in size and aspect according to situation, the stems bearing from 1 to 3 flowers and the leaves varying in figure and degree of hairiness. Several stems ordinarily spring from the same root, and are from 2 to 5 inches high, erect, leafy, and angular. Leaves often spathulate. Florets of the ray pale purple. Perennial. Flowers in July.

Genus CCCCXXV. TUSSILAGO. *Colt's-foot.*

Gen. Char. *Involucrum* simple; the scales equal, linear, membranous at the margin. *Receptacle* naked. *Flowers* radiant. *Florets* of the circumference numerous, linear, long; those of the disk few. *Pappus* simple, hairy.

Herbs of the northern hemisphere, perennial, with a creeping rhizoma, simple leaves, a 1-flowered scaly scape, and purple or yellow flowers.

TUSSILAGO Farfara. *Common Colt's foot.* Tab. **1149.**

Leaves cordate, angular, toothed, downy beneath; appearing after the flowers.

Tussilago Farfara, *E. B.* 429. *Smith* III. 425. *Lindley* 147. *Hooker ed.* 2. 357. *ed.* 3. 362. *Macreight* 120.

Very common in moist and clayey soils, where its creeping habit renders it one of the most troublesome of weeds, especially in the garden. The true stem of this plant is a surculus which elongates rapidly, branching in every direction beneath the soil. The elegant golden yellow flowers appear in March and April, the buds drooping before expansion; they are very soon followed by the leaves, which rise on long petioles and remain through the summer. The stigma of the central florets seems to be generally imperfect, wanting the bifid stigma, so that the production of seed is dependent upon the fertilization of the pistils of the marginal ones by the stamens of the former, the character of the 4th order of this class, *Necessaria*. Perennial.

The herb is bitter and astringent, contains a great deal of mucilage, and an infusion has been long employed medicinally to soothe irritation of the air-passages in asthma and similar complaints; hence the generic name from *Tussis*, a cough. The dried leaves are the basis of the "British herb tobacco." Their down is sometimes collected for tinder, for which purpose it should be saturated with saltpetre.

Genus CCCCXXVI. PETASITES. *Butter-bur.*

Gen. Char. Subdiœcious. *Involucrum* imbricated with two rows of lanceolate scales. *Receptacle* naked. *Flowers* non-radiant. *Pappus* hairy, simple.

Herbs of the northern hemisphere, nearly allied to those of the preceding genus, from which they are chiefly distinguished by their non-radiant flowers and many-flowered scapes.

PETASITES VULGARIS. *Common Butter-bur.* TAB. **1150.**

Leaves heart-shaped, unequally toothed, downy beneath, 3-ribbed at the base. Panicle (*thyrsus*) dense, ovate or oblong.

Tussilago Petasites, *Linn.* *E. B.* 431. *Smith* III. 425. *Lindley* 147. Petasites vulgaris, *Desfontaines.* *Hooker ed.* 2. 357. *ed.* 3. 362. *Macreight* 120.

α. Flowers sterile, bearing anthers, rarely seed. TAB. **1150.**

β. Flowers fertile, bearing seed, rarely perfect stamens. TAB. **1150*.** Tussilago hybrida, *Linn.* *E. B.* 430.

Very common on the banks of rivers, moist waste places, and wet meadows, creeping and extending its growth under ground very rapidly like the Colt's-foot, and far more injurious on account of its large size, the leaves greatly exceeding in extent of surface those of any other British plant. The pale lilac-coloured flowers appear in April and May, before the leaves, forming dense, ovate or cylindrical thyrsi, 3 to 6 inches in length, terminating a sort of scape about the same length clothed with imperfect leaves, the lamina of which is nearly abortive and the petiole dilated into the form of a broad scale. The leaves and flowers are smaller, and the thyrsus longer and more lax in the fertile than in the barren plant. Perennial. The early flowers are the favourite resort of bees during their short season of development.

GENUS CCCCXXVII. SENECIO. *Groundsel. Ragwort.*

GEN. CHAR. *Involucrum* cylindrical; the scales linear, equal, with smaller ones at the base, brown at the tips. *Receptacle* naked. *Flowers* discoid or radiant. *Pappus* simple, hairy, sessile, soft.

The species of this extensive genus are distributed over most parts of the earth, varying greatly in habit according to climate and other circumstances. Many of the tropical species are evergreen shrubs, especially those of southern Africa; of the remainder, chiefly annual or perennial herbs, a few are remarkable for the beauty of their flowers, but by far the larger proportion are regarded as mere weeds. Leaves alternate, entire, or pinnatifid. Inflorescence various, seldom subsolitary. Flowers generally yellow, sometimes purple, red, or white. Few or none are of any œconomical importance, being nearly insipid and destitute of active principle.

* *Flowers discoid.*

SENECIO VULGARIS. *Common Groundsel.* TAB. **1151.**

Leaves pinnatifid, the segments obtuse, toothed: half-stem-clasping. Flowers somewhat panicled; without radiant florets.

Senecio vulgaris, *E. B.* 747. *Smith* III. 428. *Lindley* 146. *Hooker ed.* 2. 358. *ed.* 3. 363. *Macreight* 135.

One of our most common weeds in almost all soils and situations, rising from a few inches to a foot high, and flowering in successive crops throughout the year; a bountiful provision of nature for the multitude of small birds who derive subsistence from the flower-buds and young tops. Herb either quite smooth, or slightly hairy and clothed, especially on the backs of the leaves, with a fine cottony down. Scales of the involucrum black at the tips. Flowers yellow, as in all of our native species of the genus.

*** Flowers radiant; the rays revolute and often inconspicuous.*

SENECIO VISCOSUS. *Stinking Groundsel.* TAB. **1152.**

Stem with many spreading branches. Leaves pinnatifid, viscid. Outer scales of the involucrum lax, hairy; nearly as long as the inner ones. Radiant florets revolute.

Senecio viscosus, *E. B.* 32. *Smith* III. 429. *Lindley* 146. *Hooker ed.* 2. 358. *ed.* 3. 363. *Macreight* 135.

Not unfrequent in waste ground on a chalky or gravelly soil. Whole herb covered with viscid hairs, very fetid, retaining small insects, dust, and other light substances which come in contact with it. Stem very much branched and straggling. Florets of the ray sometimes wanting. Annual. Flowers in July and August,

SENECIO SYLVATICUS. *Mountain Groundsel.* TAB. **1153.**

Stem erect, straight. Leaves sessile, pinnatifid, lobed and toothed. Inflorescence corymbose. Outer scales of the involucrum very short, smooth. Florets of the ray revolute; sometimes wanting.

Senecio sylvaticus, *E. B.* 748. *Smith* III. 430. *Lindley* 146. *Hooker ed.* 2. 358. *ed.* 3. 363. *Macreight* 135.

On dry upland pastures in a gravelly or sandy soil, and on heaths, especially where trees or furze have been cut down, this plant is not unfrequent. The upright, mostly simple stem rises to the height of 1 or 2 feet. Leaves rather finely divided, somewhat viscid, but far less so than in the preceding species. The recurved florets of the ray are so short that they would probably be overlooked by a superficial observer. Annual. Flowers in July.

SENECIO LIVIDUS. *Livid Groundsel.* TAB. **1154.**

Leaves dilated at the base, stem-clasping, lanceolate, pinnatifid and toothed. Outer scales of the involucrum short, with sharp, not discoloured tips.

Senecio lividus, *E. B.* 2515. *Smith* III. 429. *Lindley* 146. *Macreight* 135. S. sylvaticus *β. Hooker ed.* 2. 358. *ed.* 3. 363.

Far from frequent on barren heaths and newly-inclosed moorland. Somewhat different in habit from *S. sylvaticus*, and especially in the auricled, stem-clasping bases of the leaves, but its claim to rank as a distinct species is very doubtful. Annual. Flowers in September and October.

*** *Flowers with expanded rays. Leaves pinnatifid.*

SENECIO squalidus. *Inelegant Ragwort.* Tab. **1155**.

Leaves glabrous, pinnatifid; their segments distant, oblong, toothed. Rays spreading, elliptical, entire.

Senecio squalidus, *E. B.* 600. *Smith* III. 431. *Lindley* 146. *Hooker ed.* 2. 358. *ed.* 3. 363. *Macreight* 134.

Probably introduced. It is abundant on walls and waste places about Oxford, and has since been noticed by Mr. Forster in similar habitats near Biddeford, Devonshire. Stem erect, branched, a little hairy. Leaves rather fleshy. Inflorescence corymbose. Involucrum almost hemispherical; the outer scales few and small. Radiant florets few, 8 to 10; subsequently reflexed. Annual. Flowers from June to October.

The whole plant smells strongly, somewhat like Wormwood.

SENECIO tenuifolius. *Hoary Ragwort.* Tab. **1156**.

Stem erect, loosely cottony. Leaves closely pinnatifid, their margins somewhat revolute; pale and downy beneath. Rays spreading, oblong. All the fruit hairy.

Senecio tenuifolius, *E. B.* 574. *Smith* III. 432. *Lindley* 146. *Hooker ed.* 2. 358. *ed.* 3. 364. *Macreight* 134.

Rather frequent on hedge-banks and road-sides in a chalky or gravelly soil, especially the former. Stem erect, simple, furrowed, 1 to 3 feet high. Leaves numerous, the upper ones with linear, the lower with toothed segments. Radiant florets about 12, revolute in decay; broader than in the following species, to which this is nearly allied. Perennial. Creeping at the root. Flowers in July and August.

SENECIO Jacobœa. *Common Ragwort.* Tab. **1157**.

Stem erect, branched, furrowed. Leaves doubly pinnatifid, with spreading, toothed, smooth segments; lower ones somewhat lyrate. Rays spreading, linear, toothed. Fruit of the disk silky; that of the circumference smooth.

Senecio Jacobœa, *E. B.* 1130. *Smith* III. 433. *Lindley* 146. *Hooker ed.* 2. 359. *ed.* 3. 364. *Macreight* 134.

Abundant everywhere in dry, neglected pastures, road-sides, and waste places. Stems 2 or 3 feet high. Leaves deep glossy green, variously cut and divided; the lower ones petiolate. Inflorescence corymbose; the flowers large, deep yellow. Florets of the ray 12 to 15, becoming revolute in decay. Perennial. Flowers in July and August.

SENECIO aquaticus. *Marsh Ragwort.* Tab. **1158**.

Leaves lyrate, serrated, smooth; the lowermost obovate and undivided. Rays spreading, elliptical. Fruit all smooth.

Senecio aquaticus, *E. B.* 1131. *Smith* III. 434. *Lindley* 146. *Hooker ed.* 2. 359. *ed.* 3. 364. *Macreight* 134.

This species is equally common in moist situations with *S. Jacobæa* in dry ones, abounding in wet meadows and by the sides of rivers, ponds and ditches. It varies greatly in height and foliage according to the nature of the soil; the leaves are often wing-cleft, and approach so nearly to those of the last species that many botanists have not scrupled to consider it a mere variety. The looser corymbus, larger flowers, and perfectly smooth seeds constitute the chief features of distinction. Florets of the circumference about 18 or 20. Perennial. Flowers from July to October.

**** *Flowers with expanded rays. Leaves undivided, serrated.*

SENECIO PALUDOSUS. *Great Fen Ragwort. Bird's-tongue.* TAB. **1159.**

Stem perfectly straight, hollow, rather woolly. Leaves lanceolate, tapering, sharply serrated, somewhat woolly beneath. Corymbus terminal, spreading. Rays spreading, linear, 5-toothed.

Senecio paludosus, *E. B.* 650. *Smith* III. 434. *Lindley* 146. *Hooker ed.* 2. 359. *ed.* 3. 364. *Macreight* 135.

Rare, in ditches and fens in Lincolnshire, Cambridgeshire, and Suffolk. One of the largest species of its genus, the simple, striated stem rising often to the height of 5 or 6 feet. Leaves numerous, very long, sometimes woolly or cottony on both sides when first expanded; the lowermost semi-amplexicaul. Bracteas awl-shaped. Scales of the involucrum connected. Flowers 1½ to 2 inches in diameter. Perennial. Flowers in June and July.

SENECIO SARACENICUS. *Broad-leaved Ragwort.* TAB. **1160.**

Stem erect, smooth, solid. Leaves lanceolate, serrated, nearly smooth. Corymbus terminal. Rays spreading, elliptical, scarcely toothed.

Senecio Saracenicus, *E. B.* 2211. *Smith* III. 435. *Lindley* 147. *Hooker ed.* 2. 359. *ed.* 3. 364. *Macreight* 135.

Rare, in moist meadows and pastures in the north and west of England and in Scotland. In habit it somewhat resembles *S. paludosus.* Stem 3 to 5 feet high, little branched or simple. Leaves with small, sharp, glandular serratures; sessile. Bracteas linear. Flowers scarcely an inch in diameter. Florets of the circumference few, inclining to ovate; always recurving in decay. Perennial. Flowers in July and August.

This plant was in repute among the Saracens as a vulnerary, hence the specific name, and it was probably introduced by the Crusaders and cultivated in Britain as such, most of its localities being still in the vicinity of old monastic establishments.

GENUS CCCCXXVIII. ASTER. *Starwort.*

GEN. CHAR. *Involucrum* imbricated, scales linear; (the lowermost not spreading in our only native species). *Receptacle* naked. *Florets* of the ray numerous (never yellow). *Pappus* hair-like, sessile, simple.

Perennial herbs, or rarely shrubs, with simple leaves, and a solitary or corymbose inflorescence. Florets of the disk generally yellow or purplish; those of the circumference various shades of blue, purple, red, or white, never yellow. The genus is one of the most extensive among Composite plants, and some of the species are distributed in almost every country of the globe, but by far the larger proportion, viz. about 3-fourths of those at present known, are natives of North America. They are generally known by the name of Michaelmas Daisies, are not remarkable for properties or applied to any œconomical purposes, but chiefly valuable as autumnal ornaments in our gardens and shrubberies.

ASTER Tripolium. *Sea Starwort.* Tab. **1161.**

Stem smooth, herbaceous. Leaves linear-lanceolate, entire, fleshy, smooth, obscurely 3-ribbed. Flowers corymbose. Scales of the involucrum lanceolate, obtuse, somewhat membranous.

Aster Tripolium, *E. B.* 87. *Smith* III. 436. *Lindley* 143. *Hooker ed.* 2. 359. *ed.* 3. 365. Tripolium vulgare, *Nees von Esenbeck. Macreight* 121.

Very frequent on muddy sea-shores and in salt-marshes, varying from a few inches to 2 or 3 feet in height. Stem branched; branches nearly erect, corymbose. Leaves sessile, the lowermost tapering at the base, ovato-lanceolate; uppermost linear, acuminate. Disk yellow; rays blue, purple or whitish, sometimes wanting. Perennial. Flowers in August and September.

An elegant species, but, like many of its fellow habitants, impatient of cultivation.

Genus CCCCXXIX. SOLIDAGO. *Golden-rod.*

Gen. Char. *Involucrum* closely imbricated. *Receptacle* naked. *Florets* of the circumference few (about 6 or 8, yellow). *Pappus* simple, sessile, hairy.

Erect, perennial herbs, with alternate, simple, serrated or entire leaves, and uniformly yellow flowers. Most of the species, which are very numerous, are indigenous to North America. They are more or less astringent and tonic, and in old surgical practice the British species was in repute as a vulnerary. The dried flowers of *S. odora* are employed in North America as a substitute for tea, which, according to Pursh, has long been an article of exportation thence to China, where it fetches a high price. Several of the taller species are cultivated in our gardens and shrubberies, their crowded racemes of rich yellow flowers being very ornamental.

SOLIDAGO VIRGAUREA. *Common Golden-rod.* TAB. **1162.**

Stem leaves lanceolate; lower ones elliptical; all more or less serrated. Racemes panicled, crowded, erect.

Solidago Virgaurea, *E. B.* 301. *Smith* III. 438. *Lindley* 144. *Hooker ed.* 2. 360. *ed.* 3. 365. *Macreight* 123.

Common in woods, thickets, and on heaths among furze and ling, rising from a span to 2 or 3 feet in height and flowering from July to September. Stem somewhat zigzag, angular, harsh to the touch as well as the leaves, owing to a short rigid pubescence with which they are clothed. Racemes forming a dense, terminal panicle. Perennial.

GENUS CCCCXXX. INULA. *Elecampane.*

GEN. CHAR. *Involucrum* imbricated; the scales spreading, more or less leafy, especially the outer ones. *Receptacle* naked. *Anthers* with two bristles at the base. *Pappus* simple.

Herbs with alternate, simple leaves and yellow flowers. Some species are found in most parts of the world.

INULA HELENIUM. *Elecampane.* TAB. **1163.**

Leaves stem-clasping, ovate or lanceolate, wrinkled, somewhat toothed, downy beneath. Scales of the involucrum ovate, downy.

Inula Helenium, *E. B.* 1546. *Smith* III. 440. *Lindley* 143. *Hooker ed.* 2. 360. *ed.* 3. 365. *Macreight* 124.

Rare, and probably not indigenous, though found in moist meadows and pastures in several places in England, Scotland, and Ireland; having been formerly much cultivated in gardens for medicinal purposes. Root very large and fleshy. Stems 3 to 6 feet high, thick, downy, branched in the upper part. Leaves very large, rough, white and downy beneath; upper ones amplexicaul; lower ones stalked. Flowers large, terminal, subsolitary. Outer scales of the involucrum broad, leaf-like. Florets of the ray narrow, linear, deeply 3-toothed. Perennial. Flowers in July and August.

The whole plant has an aromatic bitter flavour, especially the root, which likewise abounds in a peculiar mucilaginous principle resembling starch. The root of Elecampane has been time out of mind in repute as a stomachic and carminative, but is seldom employed in medical practice in this country, where its once-prized confection is now only recognised in the list of school-boy delicacies. The Romans used the leaves as a pot-herb.

GENUS CCCCXXXI. PULICARIA. *Flea-bane.*

GEN. CHAR. *Involucrum* hemispherical, closely imbricated with narrow scales. *Receptacle* naked. *Anthers* with bristles at the base. *Pappus* double; the outer short, membranous, cup-shaped, toothed; the inner long, rough.

Herbs with simple, alternate leaves and yellow flowers. The double pappus distinguishes the genus from *Inula*, with which it was originally confounded.

PULICARIA DYSENTERICA. *Common Flea-bane.* TAB. **1164.**

Stem woolly. Leaves oblong, wrinkled, downy, clasping the stem with their arrow-shaped bases. Inflorescence paniculato-corymbose. Scales of the involucrum bristle-shaped, hairy.

Inula dysenterica, *Linn.* *E. B.* 1115. *Smith* III. 440. Pulicaria dysenterica, *Cassini.* *Lindley* 143. *Hooker ed.* 2. 360. *ed.* 3. 365. *Macreight* 124.

A frequent plant in clear ditches and watery places, especially in England. Stem about a foot high, branched above in a paniculate or corymbose manner. Leaves waved and slightly toothed, densely clothed with a hoary down on the under side, deeply veined and hairy on the upper. Flowers numerous, conspicuous; the disk orange, the ray golden yellow. The whole herb is viscid to the touch, and has a strong and rather disagreeable, though somewhat aromatic odour. Perennial. Flowers in August and September.

An astringent bitter, successfully employed in Russia in the cure of dysentery; hence the specific name.

PULICARIA VULGARIS. *Small Flea-bane.* TAB. **1165.**

Stem very much branched, hairy. Leaves lanceolate, wavy, hairy, narrow and half-stem-clasping at the base. Flowers hemispherical, with very short rays.

Inula pulicaria, *Linn.* *E. B.* 1196. *Smith* III. 441. Pulicaria vulgaris, *Cassini.* *Lindley* 143. *Hooker ed.* 2. 360. *ed.* 3. 366. *Macreight* 124.

Far from common, though found in several parts of England. It prefers a sandy soil, and is generally met with on moist heaths and waste places, in hollows upon which water lies during the winter. Stem with spreading branches. Leaves entire or very slightly toothed. Flowers erect, of a dull, pale yellow, developed in August and September. Annual.

GENUS CCCCXXXII. LIMBARDA. *Golden-Samphire.*

GEN. CHAR. *Involucrum* imbricated with linear scales. *Receptacle* naked. *Anthers* with bristles at the base. *Pappus* simple, rough.

Semi-fruticose plants, with yellow flowers. Distinguished from *Inula* by the close, linear scales of the involucrum, and from *Pulicaria* by the simple pappus.

LIMBARDA Crithmoides. *Golden Samphire.* Tab. **1166.**

Leaves linear, fleshy, generally 3-pointed. Involucrum smooth.

Inula Crithmoides, *Linn.* *E. B.* 68. *Smith* III. 442. *Macreight* 124. Limbarda tricuspis, *Cassini.* *Lindley* 143. Limbarda crithmoides, *Hooker ed.* 2. 360. *ed.* 3. 365.

Frequent in salt-marshes and along the margins of creeks in a muddy soil, especially on the southern and western coasts of England. The perennial, creeping, half-shrubby base of the stem sends down numerous long fibres which root it firmly in the mud. The flowering branches grow erect, about a foot high, thickly set with smooth, glaucous, fleshy leaves, most of which terminate in a blunt point with a single, obscure tooth on each side. Peduncles clothed with narrow bristly bracteas, passing gradually into the involucrum; single-flowered. Flowers showy, with an orange-coloured disk and golden rays; produced about August.

The whole plant is very succulent, and has a salt taste, with a flavour not unlike that of Samphire.

Genus CCCCXXXIII. CINERARIA. *Flea-wort.*

Gen. Char. *Involucrum* simple, of many equal, upright scales; cylindrical. *Receptacle* naked. *Fruit* quadrangular. *Pappus* pilose, simple, sessile.

The genus is widely distributed. The species of warm climates are generally under-shrubs, of cold and temperate ones perennial herbs. Their foliage is various; their flowers mostly yellow, but occasionally white or purple. Some are very ornamental, *C. cruenta* especially, a native of the Canaries long cultivated in our greenhouses.

CINERARIA palustris. *Marsh Flea-wort.* Tab. **1167.**

Stem shaggy, much branched, leafy, hollow. Leaves broadly lanceolate, toothed or sinuated. Flowers corymbose.

Cineraria palustris, *E. B.* 151. *Smith* III. 443. *Lindley* 147. *Hooker ed.* 2. 360. *ed.* 3. 366. *Macreight* 133.

A very local species, being almost confined to the fenny districts of Norfolk and Cambridgeshire, where it grows about the margins of pools and ditches, throwing up its thick, tubular stem to the height of 2 or 3 feet, and flowering in June and July. Leaves irregularly toothed, sometimes sinuated; viscid and hairy, as well as the stem. Perennial.

CINERARIA campestris. *Field Flea-wort.* Tab. **1168.**

Herb woolly. Stem simple. Root leaves elliptical, obscurely toothed; those of the stem lanceolate. Flowers in a simple, involucrated umbel.

Cineraria integrifolia, *E. B.* 152. *Smith* III. 444. C. campestris, *Retz.* *Lindley* 147. *Hooker ed.* 2. 361. *ed.* 3. 366. *Macreight* 133.

Frequent on the chalky pastures of the middle and south of England. Stem from 6 inches to a foot high, woolly, angular. Radical leaves spreading in a circle, obovate or spathulate, the margin a little reflexed, and obscurely denticulated, sometimes entire; cauline ones few, linear-lanceolate, small; all shaggy. Umbel few-flowered. Perennial. Flowers in May and June.

GENUS CCCCXXXIV. DORONICUM. *Leopard's-bane.*

GEN. CHAR. *Involucrum* double; the scales equal, longer than the disk. *Receptacle* naked. *Pappus* of the central florets simple; of the radiate ones wanting.

Perennial herbs, with petiolate radical leaves, and yellow, rarely white, conspicuous flowers. Natives of Europe and northern Asia. Most of the species have the repute of being acrid poisons.

DORONICUM PLANTAGINEUM. *Greater Leopard's-bane.* TAB. **1169.**

" Leaves toothed; radical ones on naked stalks, ovate or slightly cordate, produced at the base; cauline ones sessile, except the lowest, which has a winged stalk, with stem-clasping auricles; intermediate ones cordato-oblong; upper, ovato-acuminate."

Doronicum Pardalianches, *E. B.* 630. *Lindley* 147. D. plantagineum, *Borrer in E. B. Supp.* 2654. *ad calc.* *Hooker ed.* 2. 361. *ed.* 3. 366. *Macreight* 134. *Linn.?*

Found on the road-side near Salinghall and Widdington, Essex, and perhaps in a few other places, but a very doubtful native. Flowers large, bright yellow; produced in May and June. Perennial.

DORONICUM PARDALIANCHES. *Common Leopard's-bane.* TAB. **1169.***

Leaves cordate, toothed; the lower ones on long naked petioles; the intermediate on winged ones, dilated into stem-clasping auricles at the base; the uppermost sessile, stem-clasping.

Doronicum Pardalianches, *E. B. Supp.* 2654. *Smith* III. 446. *Hooker ed.* 2. 361. *ed.* 3. 366. *Macreight* 134.

Occasionally met with in moist woods and mountain glens in Scotland and the north of England, but scarcely to be considered as a native. Its widely creeping surculi form at intervals small fleshy tubers about the size of a bean, from which the flowering stems spring to the height of 2 or 3 feet; the latter are furrowed, hairy, and tubular, terminating in a few-flowered corymbus. Leaves soft, hairy on both sides, 6 to 9 on the stem. Whole plant somewhat clammy to the touch. Flowers yellow, smaller than in the preceding species; produced from June to September. Perennial.

GENUS CCCCXXXV. BELLIS. *Daisy.*

GEN. CHAR. *Involucrum* hemispherical, simple; scales lanceolate, equal. *Receptacle* naked, conical. *Pappus* none.

Stemless herbs, with simple leaves and 1-flowered scapes. Radiate florets white or red; disk yellow. Natives of Europe and northern Asia.

BELLIS PERENNIS. *Common Daisy.* TAB. **1170.**

Root (surculi) creeping. Leaves spathulate, obovate, crenated.
Bellis perennis, *E. B.* 424. *Smith* III. 447. *Lindley* 148. *Hooker ed.* 2. 361. *ed.* 3. 367. *Macreight* 122.

Few native plants are so well known as the Daisy, or more universally admired. Every open pasture, from the bleak sides of the Highland mountains to the rich plains and vallies of the south, is more or less bespangled with its bright pearly flowers, which, expanding only during the appearance of the sun, have procured for it its English name, literally "Day's-eye." Leaves generally all radical, but occasionally one or two proceed from the lower part of the flower-stalks. The crimson or pink tinge of the outer florets is not constant, being deeper according to the degree of exposure, and wholly absent when the plant grows in a shady situation. Perennial. Flowers throughout the year in mild weather, but chiefly from May to September.

However it may add to the beauty of our meads and pastures, the Daisy is a troublesome weed where once established, spreading rapidly and multiplying by seed at the same time; while the leaves lying close to the ground quickly eradicate all other herbage, and are themselves refused by most, if not all, of our grazing animals; they have a slightly acrid and somewhat pungent flavour. The garden Daisies are all varieties of this species in which the florets of the disk are dilated like those of the circumference. In that called the "Hen-and-Chicken Daisy," some of the modified leaves forming the involucrum are proliferous, or, more correctly speaking, develope the flower-buds in their axils, which in the ordinary state of the plant are abortive.

GENUS CCCCXXXVI. CHRYSANTHEMUM. *Chrysanthemum. Ox-eye.*

GEN. CHAR. *Involucrum* hemispherical, imbricated; scales membranaceous at the margin. *Receptacle* naked. *Pappus* wanting.

Herbs or under-shrubs, with jagged or pinnatifid leaves. Flowers yellow in the disk, white, yellow, or purple in the ray, never blue. The species are distributed over various parts of the globe. They are all more or less aromatic and bitter, but are not applied to any œconomical purpose, being only valued for the beauty of their flowers. The most important is *C. sinense*, the Chinese or common Chrysanthemum of the flower-garden, a species so long under cultivation in eastern Asia that its original character is uncertain: all of the older varieties of this flower were imported from China, but the number and splendour of the assortment has been greatly increased of late years by our European florists from seed perfected in this and other countries.

CHRYSANTHEMUM Leucanthemum. *Great White Ox-eye. Ox-eye Daisy. Moon-flower.* Tab. **1171.**

Stem erect, branched. Leaves half-stem-clasping, oblong, blunt, cut; pinnatifid at the base; the radical ones obovate, petiolate.

Chrysanthemum Leucanthemum, *E. B.* 601. *Smith* III. 449. *Lindley* 148. *Hooker ed.* 2. 361. *ed.* 3. 367. *Macreight* 130.

Very common in dry pastures and on the borders of fields; often among corn. Stem about 2 feet high, furrowed; the ribs generally purple. Leaves deep green, nearly smooth. Flowers large, with white rays, terminating the branches; produced in June and July. Perennial.

CHRYSANTHEMUM segetum. *Corn Marigold. Yellow Ox-eye.* Tab. **1172.**

Leaves embracing the stem, glaucous, toothed at the base, deeply notched or jagged upwards.

Chrysanthemum segetum, *E. B.* 540. *Smith* III. 449. *Lindley* 148. *Hooker ed.* 2. 361. *ed.* 3. 367. *Macreight* 130.

Frequent in corn-fields, especially on a sandy soil, growing to the height of 1 or 2 feet, and flowering from June to the end of August. Herb smooth, glaucous. Peduncles gradually thickened upwards, terminating each with a single, rather large, deep yellow flower. Annual. In some countries it is a very troublesome weed in arable land.

Genus CCCCXXXVII. PYRETHRUM. *Feverfew.*

Gen. Char. *Involucrum* hemispherical, imbricated; scales membranaceous at the margin. *Receptacle* naked. *Fruit* crowned with a membranaceous border.

Herbaceous plants or small shrubs, with pinnatifid or bipinnatifid, and mostly alternate leaves. Infloresence solitary or corymbose. Florets of the disk yellow; of the ray white, very rarely yellow or red. The species are very widely distributed, some being indigenous to most parts of the globe, but by far the larger proportion belongs to the countries bordering the Mediterranean: the shrubby sorts are all natives of the African Atlantic islands.

The membranous crown of the fruit distinguishes the genus from *Chrysanthemum*.

These plants often possess the aromatic bitter principle of their section in a high degree, and were once in repute for their medicinal agency, especially in fever, hence the English name. The far-famed "Pellitory of Spain" is *P. officinale*, which still holds a place in our Materia Medica.

PYRETHRUM PARTHENIUM. *Common Feverfew.* TAB. **1173.**

Stem erect. Leaves petiolate, flat, bipinnatifid; their segments ovate, cut. Inflorescence corymbose. Radiate florets shorter than the diameter of the disk.

Pyrethrum Parthenium, *E. B.* 1231. *Smith* III. 451. *Hooker ed.* 2. 362. *ed.* 3. 367. *Macreight* 130. Chrysanthemum Parthenium, *Lindley* 148. Matricaria Parthenium, *Linn.*

Frequent in waste places, on old walls, among rubbish, and likewise under hedges, but generally in the vicinity of towns and villages. Stem furrowed, much branched, bushy, 1 or 2 feet high. Leaves of a dull green, somewhat hoary. Peduncles long, thickened upwards. Flowers nearly on a level; the florets of the circumference white, very short, sometimes wanting. Perennial. Flowers in July.

The whole herb smells very powerfully, is bitter and tonic, and the infusion is sometimes employed in domestic medicine in ague and low fever; hence probably the frequency of the double-flowered variety in old gardens.

PYRETHRUM INODORUM. *Corn Feverfew. Scentless May-weed.* TAB. **1174.**

Stem branched, spreading. Leaves sessile, bipinnatifid; segments capillary. Crown of the fruit entire.

Pyrethrum inodorum, *E. B.* 676. *Smith* III. 452. *Hooker ed.* 2. 362. *ed.* 3. 367. *Macreight* 130. Chrysanthemum inodorum, *Linn. Lindley* 148.

This species is common in fields and by way-sides, especially in a gravelly soil, flowering in August and September. Stem about a foot high, smooth, angular. Leaves variously pinnatifid, with numerous capillary, pointed segments. Flowers large, on long, naked peduncles; florets of the circumference white, very long; disk convex. Annual.

The plant has a slight aromatic odour, notwithstanding its specific name.

PYRETHRUM MARITIMUM. *Sea-side Feverfew.* TAB. **1175.**

Stem diffuse, branched. Leaves sessile, bipinnatifid; segments linear, fleshy, pointless. Crown of the fruit lobed.

Pyrethrum maritimum, *E. B.* 979. *Smith* III. 452. *Hooker ed.* 2. 362. *ed.* 3. 367. *Macreight* 130. Chrysanthemum maritimum, *Lindley* 148. Matricaria maritima, *Linn.*

Far from unfrequent on sandy sea-coasts. By many botanists it is considered a maritime variety of the last species, which it somewhat resembles in habit; but the present is a perennial, while *P. inodorum* is an annual plant, which circumstance, added to the fleshy leaves, smaller flowers, and the membranous crown of the fruit being divided into 3 or 4 lobes instead of entire, seems to form a sufficient distinction, at least in the absence of intermediate varieties. Flowers about July.

GENUS CCCCXXXVIII. MATRICARIA. *Wild Chamomile.*

GEN. CHAR. *Involucrum* hemispherical or flattish, imbricated; scales obtuse, with a membranaceous margin. *Receptacle* naked, conical, (almost cylindrical). *Pappus* wanting.

Annual herbs with pinnatifid leaves. Flowers white in the circumference, yellow in the disk. The genus is small, not above 4 or 5 species being known; they are natives of the eastern hemisphere.

MATRICARIA CHAMOMILLA. *Wild Chamomile.* TAB. **1176.**

Leaves smooth, bipinnatifid, with capillary segments. Involucrum nearly plane, the scales dilated, blunt. Radiate florets spreading.

Matricaria Chamomilla, *E. B.* 1232. *Smith* III. 454. *Lindley* 149. *Hooker ed.* 2. 362. *ed.* 3. 367. *Macreight* 130.

Rather a local plant, but often abundant in corn-fields and waste ground, the slender, smooth, branched stem rising about a foot in height. Flowers terminal, the radiate florets abrupt, toothed, expanding during the day, deflexed at night; disk conical. Smells like the true Chamomile, *Anthemis nobilis*, but less powerfully. Annual. Flowers in July and August.

GENUS CCCCXXXIX. ANTHEMIS. *Chamomile.*

GEN. CHAR. *Involucrum* hemispherical, imbricated; scales nearly equal, their margins membranaceous. *Receptacle* chaffy, convex. *Fruit* crowned with a more or less distinct membranaceous border.

Herbs with divided, pinnatifid, or bipinnatifid, alternate leaves. Florets of the disk yellow, of the circumference white or yellow. About 50 species are known, which are chiefly distributed over Europe and the temperate parts of Asia.

ANTHEMIS MARITIMA. *Sea Chamomile.* TAB. **1177.**

Stems prostrate. Leaves doubly pinnatifid; the segments acute, fleshy, somewhat hairy. Scales of the receptacle prominent, sharp-pointed.

Anthemis maritima, *E. B.* 2370. *Smith* III. 456. *Lindley* 150. *Hooker ed.* 2. 362. *ed.* 3. 368. *Macreight* 129.

A native of rocky and stony places on the sea-coast, as at Sunderland, Durham, but of rare occurrence. Stems prostrate, 6 to 12 inches long, hoary, branched. Leaves sessile, hairy, especially beneath. Flowers solitary at the ends of the branches; disk flattish, with the sharp, chaffy scales of the receptacle rising above the unexpanded florets. Annual. Flowers in July.

The flowers smell like Tansy, the leaves somewhat like Wormwood.

ANTHEMIS NOBILIS. *Common Chamomile.* TAB. **1178.**

Stems procumbent. Leaves bipinnatifid; the segments linear, acute, a little downy. Scales of the receptacle membranaceous, obtuse, shorter than the florets.

Anthemis nobilis, *E. B.* 980. *Smith* III. 456. *Lindley* 150. *Hooker ed.* 2. 362. *ed.* 3. 368. *Macreight* 129.

Not unfrequent on dry, gravelly or sandy heaths and pastures, where its stems, radiating close to the ground, and occasionally rooting as they extend, branch in every direction, forming patches to the exclusion of all other herbage. Segments of the leaves semicylindrical. Flowers solitary at the ends of the branches; the rays yellowish white; the disk yellow, convex at first, at length conical. Crown of the fruit rather obscure. Perennial. Flowers in August and September.

The whole plant is exceedingly bitter, and has a peculiar, but agreeable and somewhat aromatic odour; its infusion has long been esteemed in medicine as a tonic and stomachic, and used as an ingredient in fomentations.

The Chamomile flowers of the druggists are the produce of the cultivated variety, in which all the florets are dilated so as to render the disk obsolete, the ordinary mode in which the radiate flowers of this class become what is commonly, though improperly, styled double. In flavour and properties they are weaker than those of the wild plant.

ANTHEMIS ARVENSIS. *Corn Chamomile.* TAB. **1179.**

Stem erect. Leaves bipinnatifid; the segments linear-lanceolate, hairy. Receptacle conical; its scales lanceolate. Crown of the fruit conspicuous, entire, quadrangular.

Anthemis arvensis, *E. B.* 602. *Smith* III. 457. *Lindley* 150. *Hooker ed.* 2. 363. *ed.* 3. 368. *Macreight* 129.

Rather local than common, though sometimes abundant in cornfields and arable land generally, especially in a gravelly soil. Whole herb whitish with a cottony down. Stem about a foot high, much branched; each branch terminating in one large flower, yellow in the disk, with broad, white rays. Biennial. Flowers in June and July.

ANTHEMIS COTULA. *Stinking Chamomile. Mayweed.* TAB. **1180.**

Stem erect, branched. Leaves bipinnatifid, smooth; their segments subulate. Receptacle conical; its scales setaceous. Crown of the fruit wanting.

Anthemis Cotula, *E. B.* 1772. *Smith* III. 458. *Hooker ed.* 2. 363. *ed.* 3. 368. Maruta fœtida, *Cassini. Lindley* 150. *Macreight* 129.

The most common of its genus, abounding everywhere on waste and cultivated ground. Nearly smooth. Stem upright, branched, many-flowered; about a foot high. Leaves bright green. Flowers yellow in the disk, white in the ray: the rays reflexed at night. Receptacle almost cylindrical when in fruit; its scales bristle-like, shorter than the florets. Annual. Flowers in July and August.

The whole plant has a powerful disagreeable scent, by which it is readily distinguished. It is acrid and nauseous to the taste.

ANTHEMIS TINCTORIA. *Ox-eye Chamomile.* TAB. **1181**.

Stem erect, corymbose. Leaves bipinnatifid; the segments serrated, downy beneath. Crown of the fruit entire.

Anthemis tinctoria, *E. B.* 1472. *Smith* III. 459. *Lindley* 150. *Hooker ed.* 2. 363. *ed.* 3. 368. *Macreight* 129.

Rare; being only found occasionally in dry fields and stony, mountainous places. Stem bushy, a foot or more in height, angular, cottony. Leaves flat; the segments deeply and sharply serrated. Flower-stalks long. Involucrum hemispherical: the scales jagged, cottony. Florets all of a bright golden yellow. Biennial, or perhaps perennial in some soils and situations. Flowers in July and August.

GENUS CCCCXL. ACHILLEA. *Yarrow.*

GEN. CHAR. *Involucrum* ovate, imbricated. *Receptacle* narrow, plane, chaffy. *Pappus* wanting. *Florets* of the radius few (5 to 10), roundish or obcordate.

Herbs with alternate, mostly variously pinnatifid leaves, and corymbose, white, pink, or yellow flowers. Natives chiefly of Europe and the temperate and colder regions of Asia.

ACHILLEA PTARMICA. *Sneeze-wort. Goose-wort.* TAB. **1182**.

Leaves linear-lanceolate, acuminate, equally and sharply but minutely serrated, smooth.

Achillea Ptarmica, *E. B.* 757. *Smith* III. 460. *Lindley* 151. *Hooker ed.* 2. 363. *ed.* 3. 368. *Macreight* 129.

Far from unfrequent in moist meadows and pastures, hedges and thickets, and about the banks of rivers, creeping widely at the base and sending up distant, erect, smooth, angular stems 1 to 2 feet high, terminating in a flat corymbus of white flowers, which expand in July and August. Perennial.

The leaves have a slightly pungent odour, and when dried and powdered have formerly been used to excite sneezing, whence the English name. The juice is acrid.

ACHILLEA SERRATA. *Serrated Yarrow.* TAB. **1183**.

Leaves linear-lanceolate, sessile, downy, deeply serrated; laciniated at the base. Corymbus nearly simple.

Achillea serrata, *E. B.* 2531. *Smith* III. 461. *Lindley* 151. *Hooker ed.* 2. 363. *ed.* 3. 369. *Macreight* 129.

Found near Matlock in Derbyshire. It very nearly resembles *A. Ptarmica* in habit, but the more deeply serrated leaves, almost lobed at the base, and smaller, pale yellow or buff-coloured flowers distinguish it from that species. Perennial. Flowers in August.

ACHILLEA Millefolium. *Common Yarrow. Milfoil.* Tab. **1184.**

Stems furrowed. Leaves doubly pinnatifid, hairy; segments linear, toothed, pointed.

Achillea Millefolium, *E. B.* 758. *Smith* III. 462. *Lindley* 151. *Hooker ed.* 2. 364. *ed.* 3. 369. *Macreight* 129.

Common in pastures and on road-sides, where it may be found in flower throughout the summer. Stems leafy, 1 to 3 feet high, terminating in a flat corymbus of numerous flowers, which are usually white, but sometimes flesh-coloured or purple; in the latter case they are frequently introduced to the garden. Perennial; creeping widely in a light soil by means of its surculi, and with difficulty eradicated.

The herb is astringent and slightly aromatic, and was formerly in repute as a vulnerary.

ACHILLEA tomentosa. *Woolly yellow Milfoil. Golden Yarrow.* Tab. **1185.**

Leaves woolly, bipinnatifid; segments crowded, linear, acute. Corymbus repeatedly compound.

Achillea tomentosa, *E. B.* 2532. *Smith* III. 462. *Lindley* 151. *Hooker ed.* 2. 364. *ed.* 3. 369. *Macreight* 129.

A native of dry, hilly pastures in Scotland and Ireland, but only of occasional occurrence. In the mountainous and sub-alpine districts of central and southern Europe it is common. In habit much resembling the Common Yarrow, but dwarfer, the stem being only 6 or 8 inches high; the leaves are less finely divided, the corymbus more repeatedly compound, and the flowers of a rich golden yellow. Herb very downy. Perennial. Flowers through the summer and autumn.

An elegant plant for rock-work.

Order III. FRUSTRANEA. *External florets neuter, the rest with both stamens and pistils. The only British genus has them all tubular, and belongs to the natural section,* Cynarocephalæ.

Genus CCCCXLI. CENTAUREA. *Knapweed. Bluebottle. Star-Thistle.*

Gen. Char. *Involucrum* imbricated; the scales leafy, scariose or spiny. *Receptacle* bristly. *Pappus* simple. *Corollas* of the external florets funnel-shaped, irregular; longer than the rest.

A very extensive and extremely diversified genus of herbaceous plants, chiefly belonging to Europe and the adjoining countries of Asia, especially around the basin of the Mediterranean. In the western hemisphere they are only met with as weeds undoubtedly of European introduction. Flowers generally purple, varying to red and white; not unfrequently yellow; rarely blue, and only so in a section of the sub-genus *Cyanus.* The herbaceous habit is in a few instances displaced by a half-shrubby one.

The plants are all bitter, possess a tonic property, and several of the species were in repute formerly as febrifuges. At present they are nearly disused in medicine, and only valuable as garden ornaments, for which their elegant and often sweet-scented flowers are well adapted.

* *Scales of the involucrum jagged or fringed. Knapweeds.*

CENTAUREA JACEA. *Brown radiant Knapweed.* TAB. **1186.**

Leaves linear-lanceolate; the radical ones broader and toothed. Scales of the involucrum membranous, torn; the outer ones pinnatifid. Flowers radiant. Pappus in a single row, very short.

Centaurea Jacea, *E. B.* 1678. *Smith* III. 465. *Lindley* 155. *Hooker ed.* 2. 364. *ed.* 3. 369. *Macreight* 136.

A very local species, met with under hedges and on waste ground or road-sides in Sussex, Angus-shire, and about Belfast in Ireland, but probably often overlooked, from being confounded with the next, *C. nigra,* to which in habit it is very similar, and in which the flowers are occasionally radiant. The narrowness of the leaves of the present plant, and the light brown, shining, membranous scales of the involucrum, of which the inner or uppermost are rounded and lacerated at the top, while the lower ones are deeply pinnatifid, constitute its chief characters of distinction. Flowers bright purple, expanding about August and September. Perennial.

CENTAUREA NIGRA. *Black Knapweed.* TAB. **1187.**

Lower leaves somewhat lyrate, the lobes angular; upper ones ovato-lanceolate, entire. Scales of involucrum ovate, fringed with capillary teeth. Flowers discoid, (sometimes radiant). Pappus very short, tufted.

Centaurea nigra, *E. B.* 278. *Smith* III. 465. *Lindley* 155. *Hooker ed.* 2. 364. *ed.* 3. 369. *Macreight* 136.

Common in meadows and pastures, on road-sides and waste ground in all soils and situations, rising 2 or 3 feet in height and flowering from June to September. Herb rough with short bristly hairs. Root leaves sometimes lanceolate and nearly entire, or only slightly toothed. Scales of the involucrum black, finely pectinated, the teeth or cilia dark brown. Flowers red or purple; the external neutral florets generally wanting; when present, the flowers are radiate and the plant becomes *C. nigrescens* of Willdenow. Perennial.

CENTAUREA Cyanus. *Corn Blue-bottle.* Tab. **1188**.

Leaves linear, entire; the lowermost lanceolate, toothed. Scales of the involucrum serrated. Flowers radiant.

Centaurea Cyanus, *E. B.* 277. *Smith* III. 466. *Lindley* 155. *Hooker ed.* 2. 364. *ed.* 3. 370. *Macreight* 136.

This, the most elegant of the native species of *Centaurea*, is well known as the companion of the Poppy and Cockle among corn, and however indicative their presence may be of carelessness in the cultivator, the beauty of the waving corn-field is greatly lessened to the disinterested observer where the contrast of vivid hues presented by these three plants is wanting. No artificial colour can imitate the brilliancy of the blue of the outer florets of the *Cyanus*. Stem 2 or 3 feet high, slender, angular, hollow, much branched; covered, as well as the under sides of the leaves, with a loose cottony down. Flowers large, solitary at the ends of the branches, which are a little swollen under the involucrum. Florets of the centre small, reddish-purple with black anthers; neutral ones blue, large, spreading, few, 9 to 12. Annual. Flowers about July and August.

The colour of the outer florets is easily obtained by expression, and would be valuable to the flower-painter were it permanent, but it is not so by any ordinary mode of preparation; an instance of its fugitive character is exhibited in the original edition of E. Bot. where the separate floret at the bottom of the plate was coloured with it by way of experiment. A variety with white and another with purple flowers are frequent in gardens.

CENTAUREA Scabiosa. *Greater Knapweed.* Tab. **1189**.

Leaves roughish, pinnatifid; their segments lanceolate, acute, partly toothed. Scales of the involucrum ovate, ciliated, somewhat downy.

Centaurea Scabiosa, *E. B.* 56. *Smith* III. 467. *Lindley* 155. *Hooker ed.* 2. 364. *ed.* 3. 370. *Macreight* 136.

Chiefly found on a chalky soil, but not unfrequent elsewhere throughout the kingdom, growing in barren pastures, and on the borders of corn-fields, balks, and road-sides. Stem 2 to 3 feet high, angular, branched. Leaves dark green. Flowers large, purple, solitary at the ends of the branches. Involucrum nearly globose; the scales triangular, acute, cottony, black above, pectinated on the margin. Perennial. Flowers in July and August.

** *Scales of the involucrum palmate or pinnate, and spinous.* Star-Thistles.

CENTAUREA Isnardi. *Jersey Star-Thistle.* Tab. **1190**.

Leaves toothed, somewhat lyrate, roughish, slightly stem-clasping. Flowers terminal, solitary, with 1 or more leaves at the base. Scales of the involucrum with palmated spines.

Centaurea Isnardi, *E. B.* 2256. *Smith* III. 468. *Lindley* 155. *Hooker ed.* 2. 365. *ed.* 3. 370. *Macreight* 137.

A native of dry pastures in the Jersey islands. Stems procumbent, branched, furrowed. Leaves more or less deeply pinnatifid, their lobes tipped with spines; rough like the stem, with short rigid hairs. Involucrum ovate, smooth; the scales terminating in 5 spreading, palmate thorns. Flowers pale purple; produced in July and August. Perennial.

CENTAUREA Calcitrapa. *Common Star-Thistle.* Tab. **1191**.

Stem divaricated, hairy. Leaves unequally pinnatifid; the segments with spiny teeth. Flowers lateral, mostly sessile. Scales of the involucrum terminating in a long, broad spine, which is itself cleft and spinous at the base.

Centaurea Calcitrapa. *E. B.* 125. *Smith* III. 468. *Lindley* 155. *Hooker ed.* 2. 365. *ed.* 3. 370. *Macreight* 137.

A very local plant, chiefly found in waste places and on road-sides in the middle and southern counties of England, especially near the sea and large tide rivers. The low, branched, bushy stems spread widely, are strongly furrowed, and clothed with slender, soft hairs. Leaves variously cleft and toothed, the segments always terminating in spines. Spines of the involucrum channeled, shining, yellowish-brown, pinnatifid with lesser spines at the base. Flowers pale purple; expanding from July to September. Annual.

CENTAUREA solstitialis. *Yellow Star-Thistle. St. Barnaby's Thistle.* Tab. **1192**.

Stem winged with the decurrent bases of the leaves. Leaves lanceolate, not spinous; the radical ones lyrato-pinnatifid. Flowers solitary, terminal. Scales of the involucrum terminating in a long spine, which is cleft into smaller ones at its base.

Centaurea solstitialis, *E. B.* 243. *Smith* III. 469. *Lindley* 155. *Hooker ed.* 2. 365. *ed.* 3. 370. *Macreight* 137.

Occasionally met with on the borders of fields "which have been sown with Lucerne and Saintfoin," and in waste places in the east and south of England, but undoubtedly imported with seed from the continent. Whole herb harsh and rigid, clothed with a cottony web, somewhat viscid. Flowers golden yellow, as are likewise the spines of the involucrum; they appear about midsummer, hence the specific name; but generally continue in succession until late in the autumn. Annual. 2 feet high.

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✓ ERRATA.

Page 30, line 1, for *central one-stalked*, read *central one stalked*.

In the observations on the genus Lavatera, Vol. 5, page 114, for *western hemisphere* read *eastern*.

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1471

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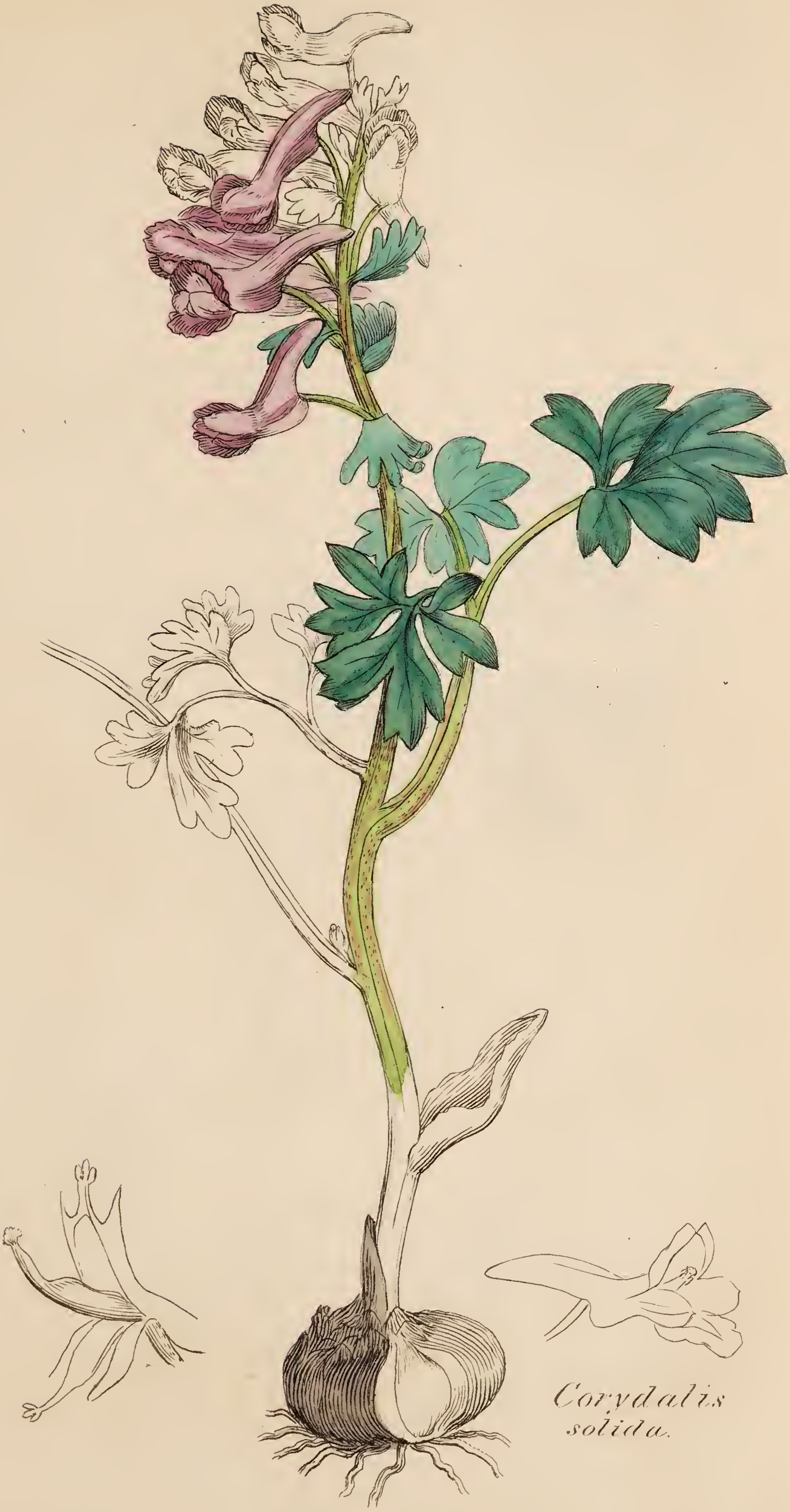

Corydalis solida.

July 1. 1805. Published by Jas. Sowerby, London.

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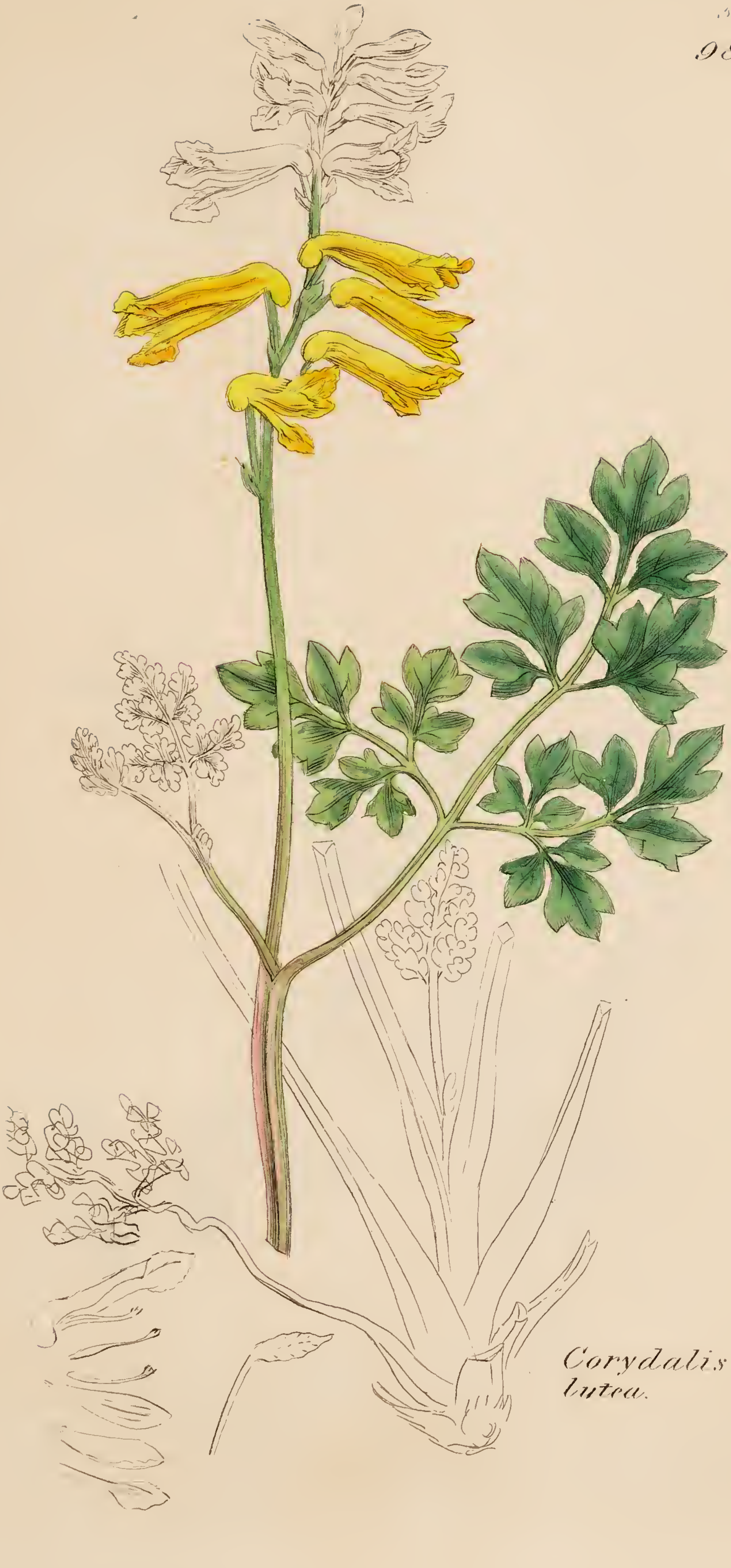

Corydalis
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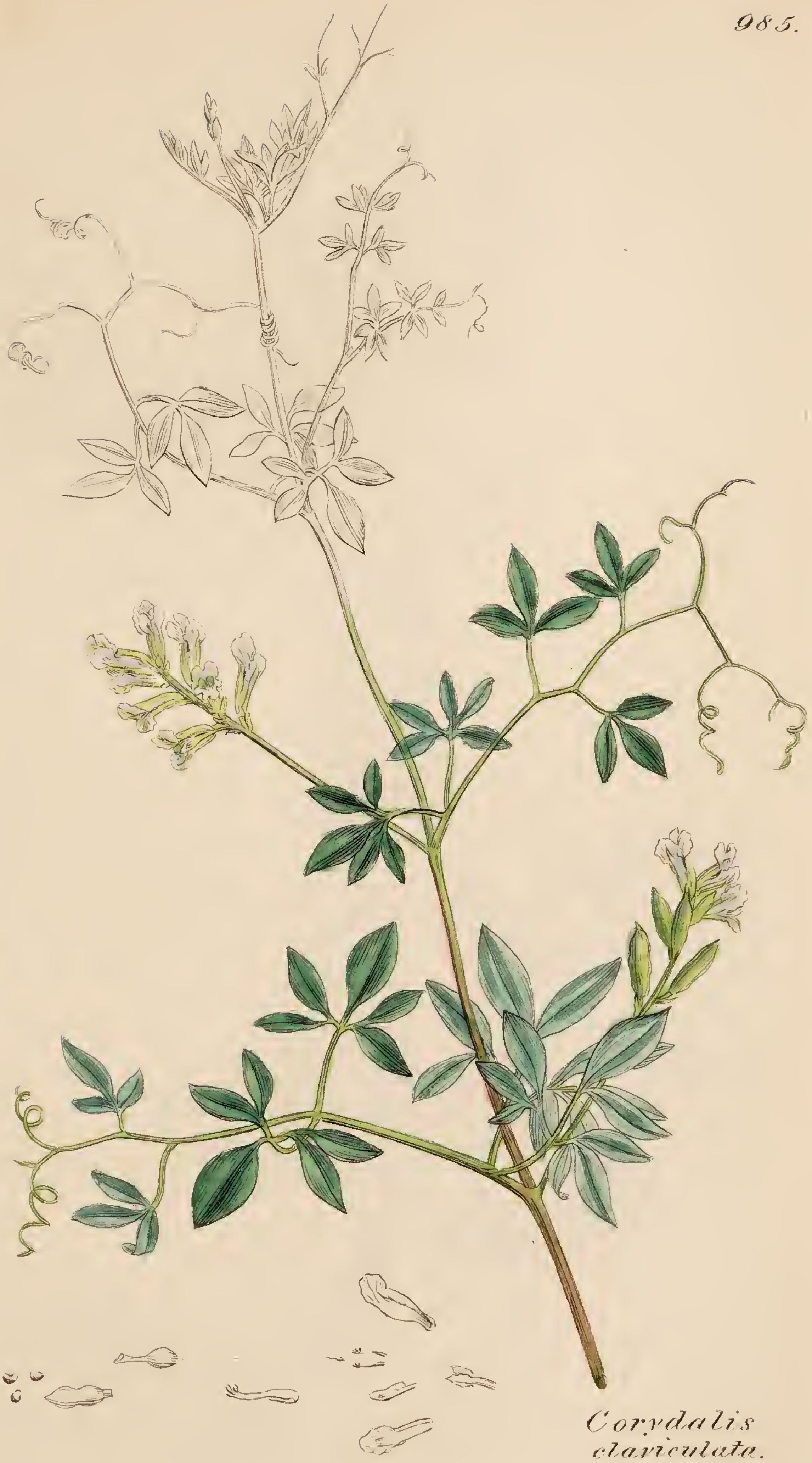

Corydalis claviculata.

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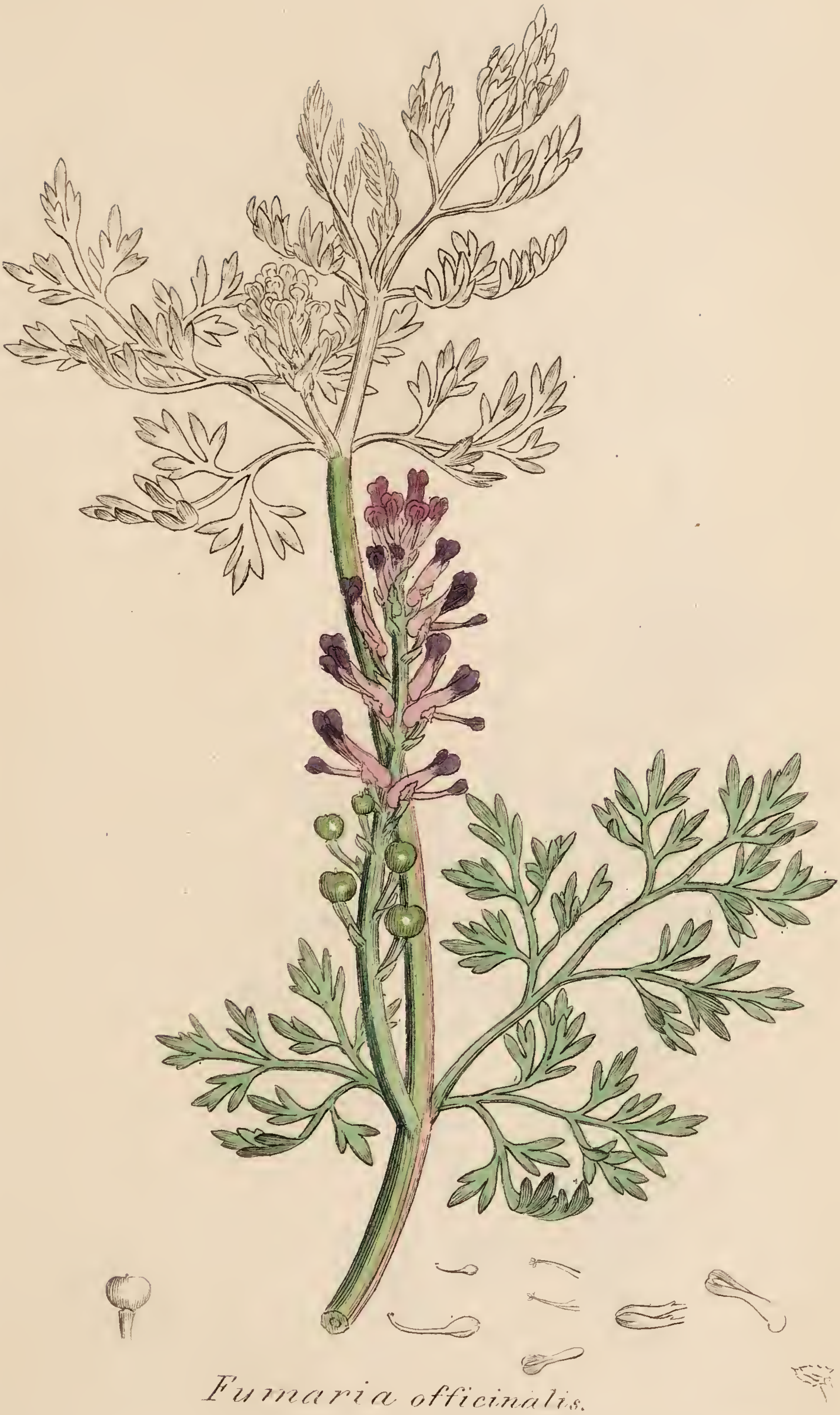

Fumaria officinalis.

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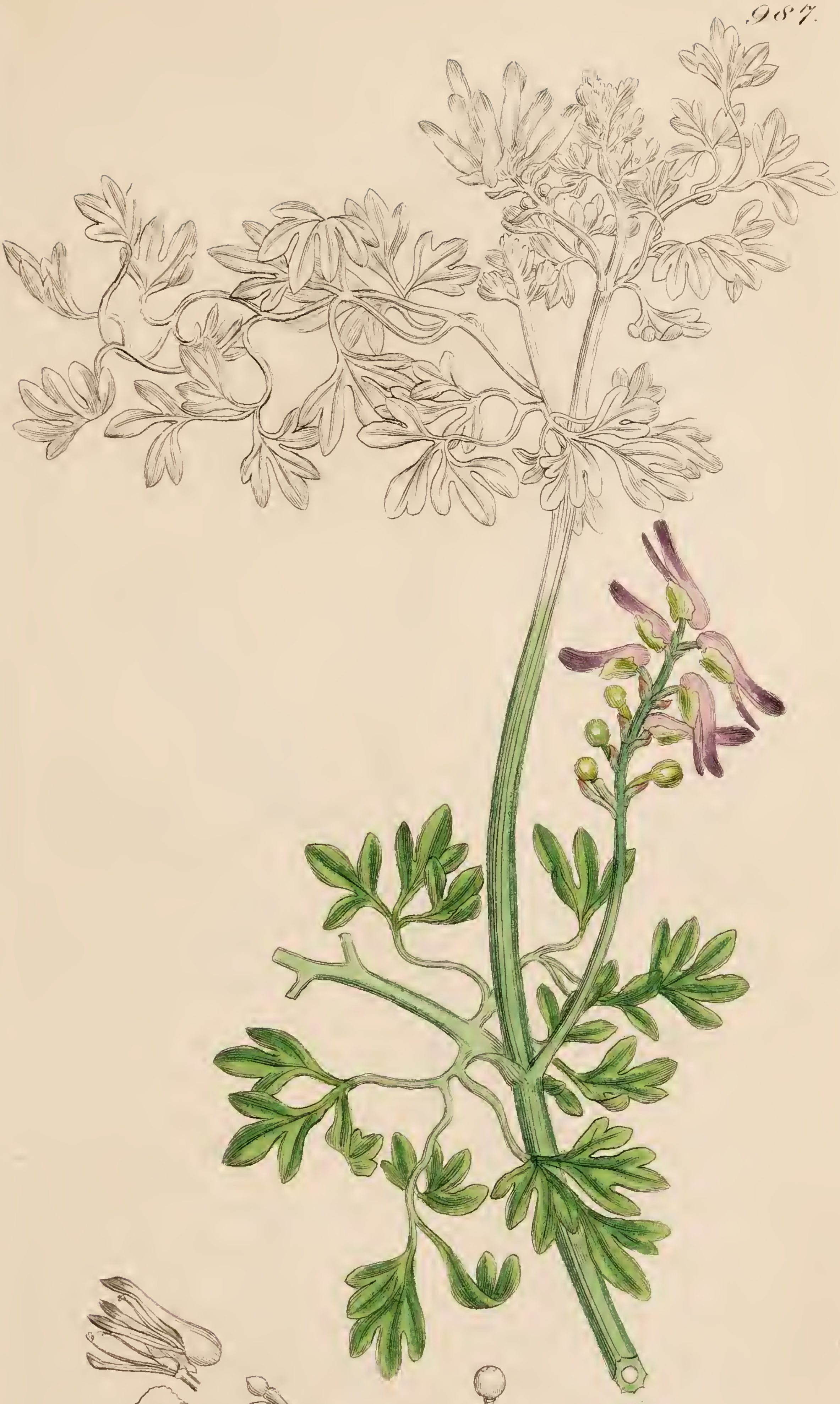

Fumaria capreolata.

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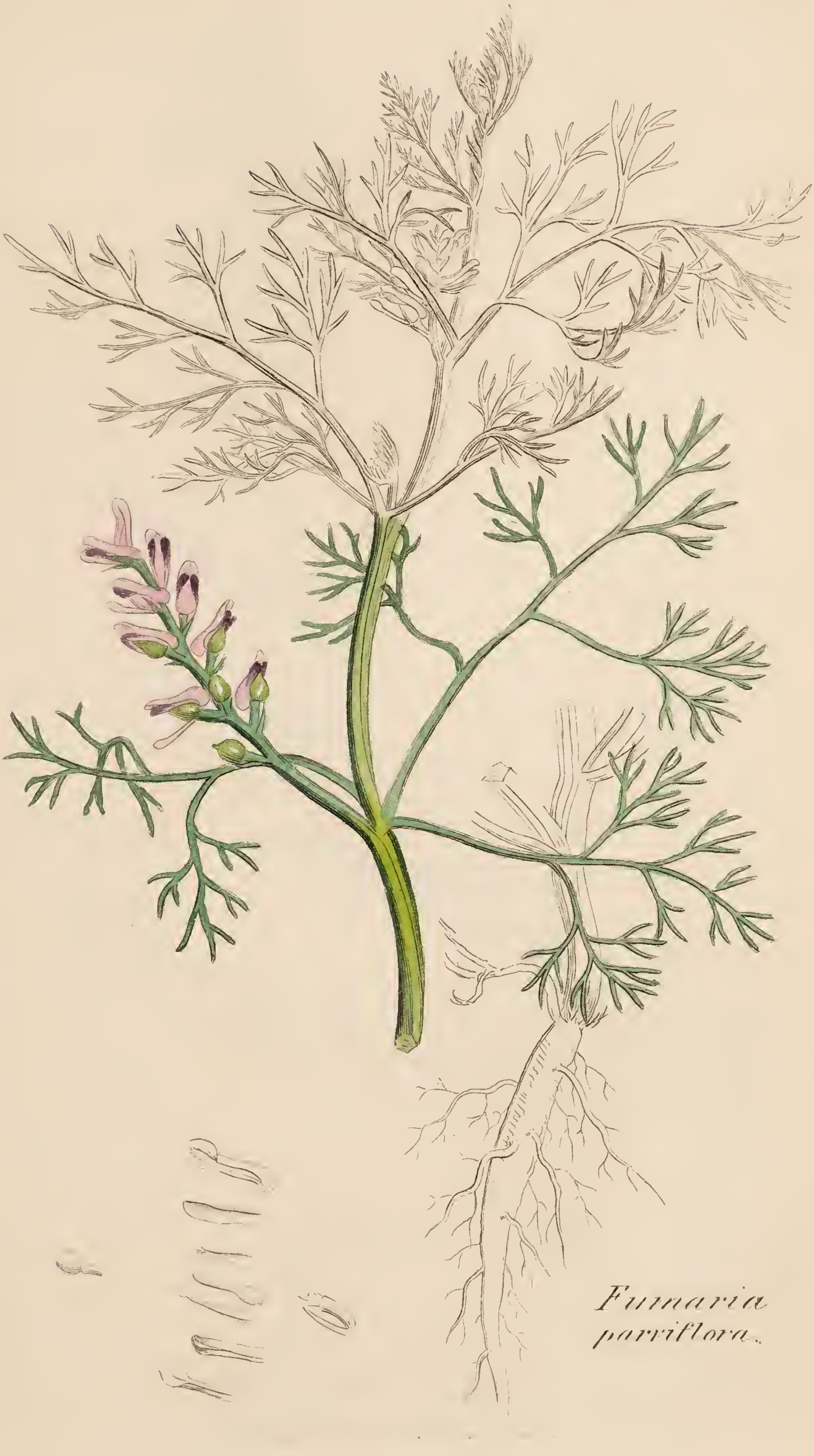

Fumaria
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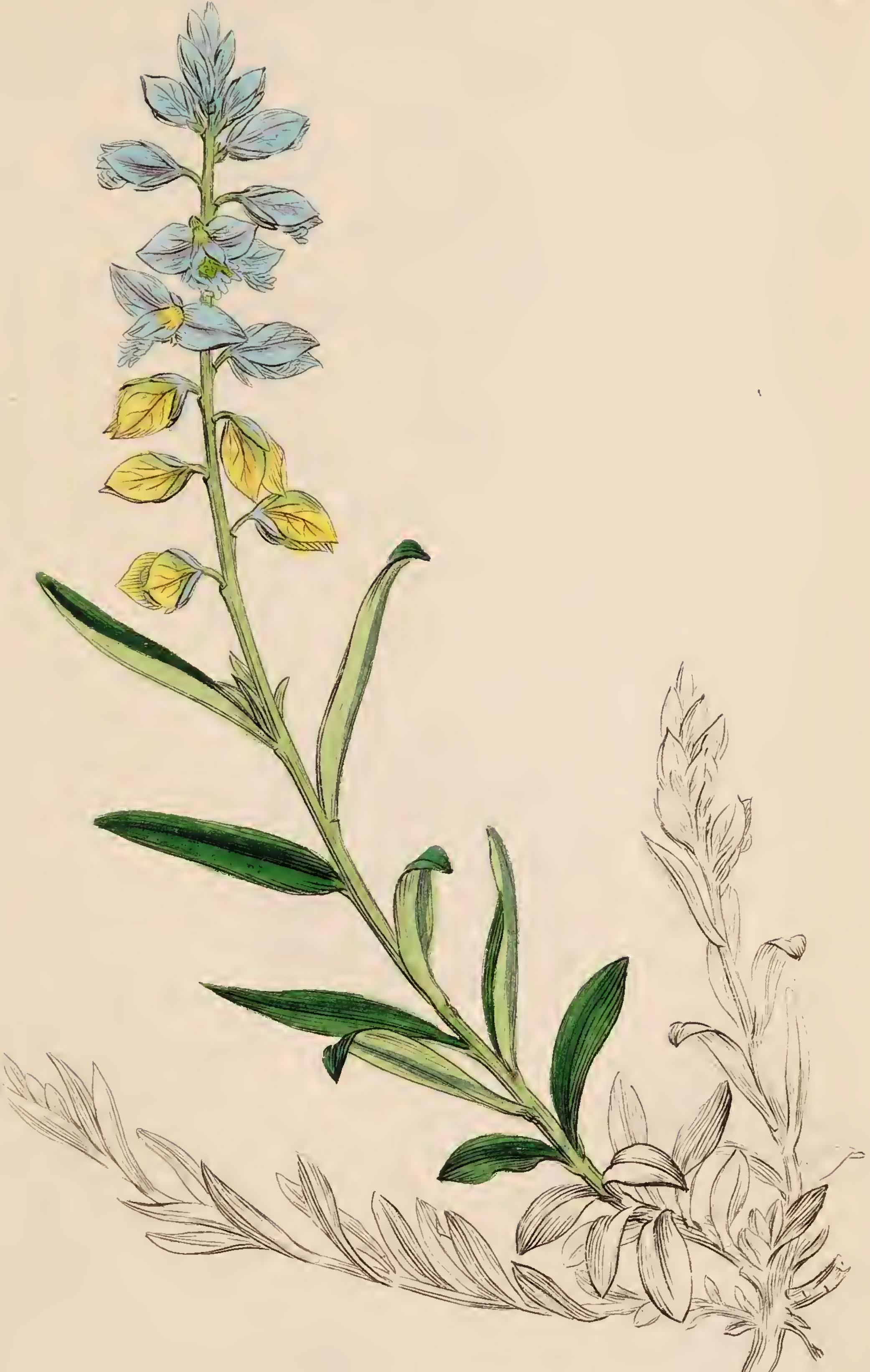

Polygala vulgaris.

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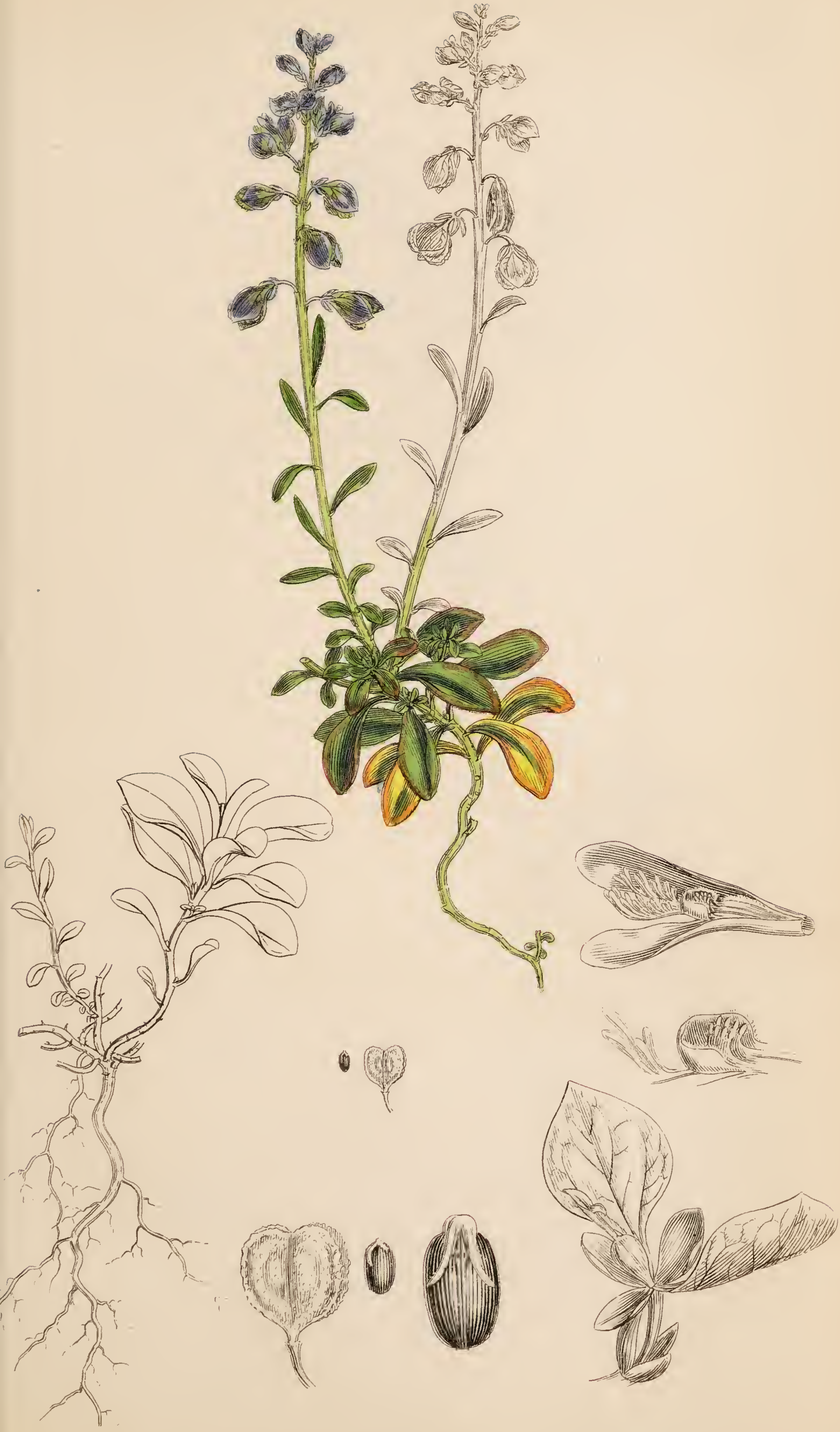

Feb^{y} 1st 1833.

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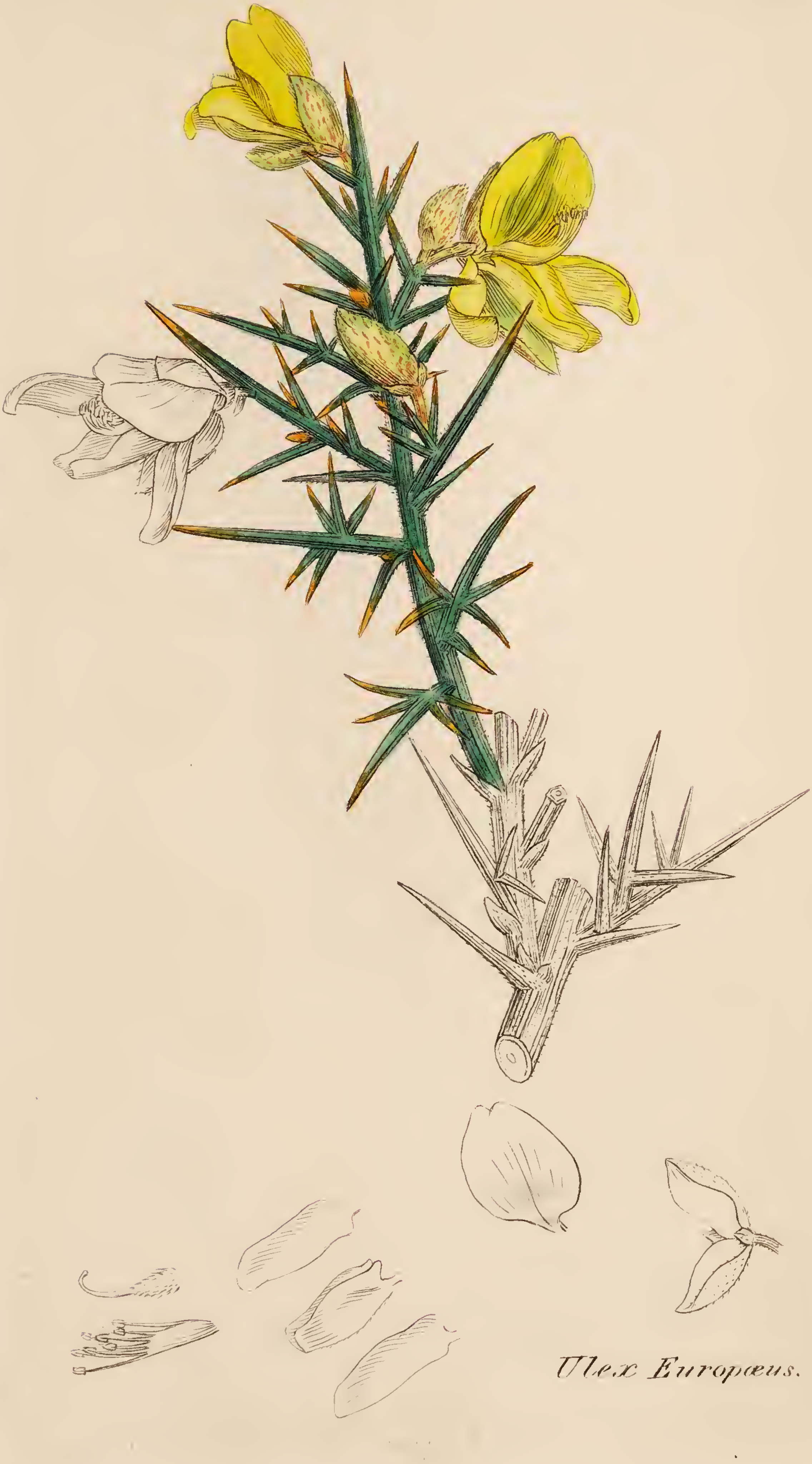

Ulex Europœus.

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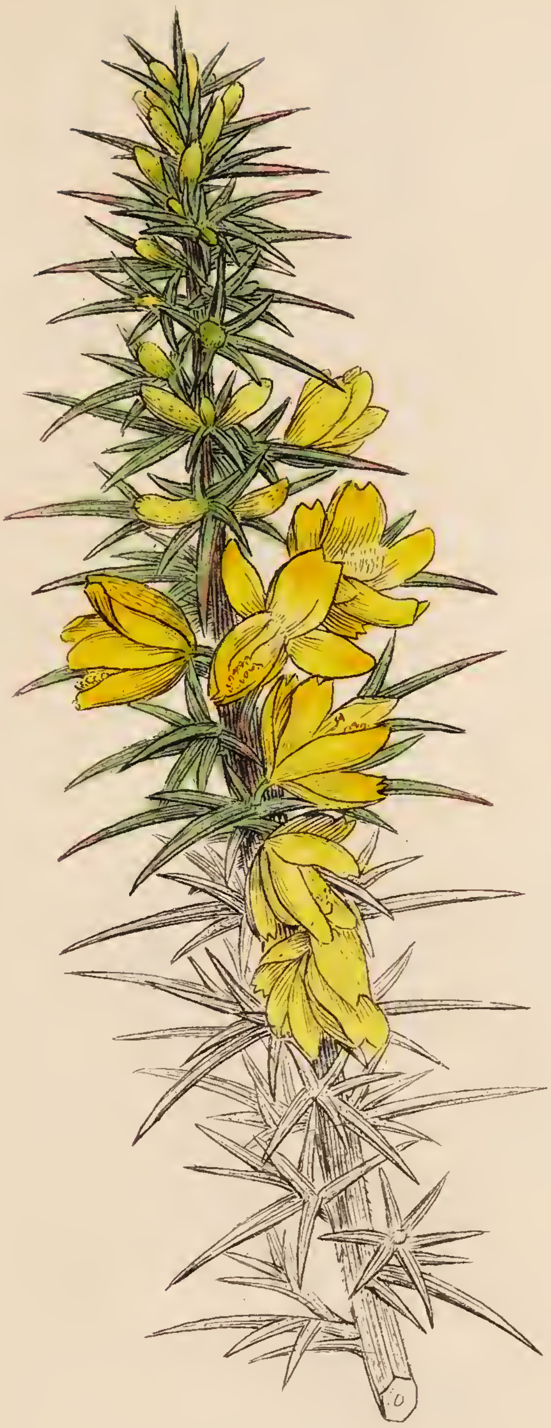

Ulex nanus.

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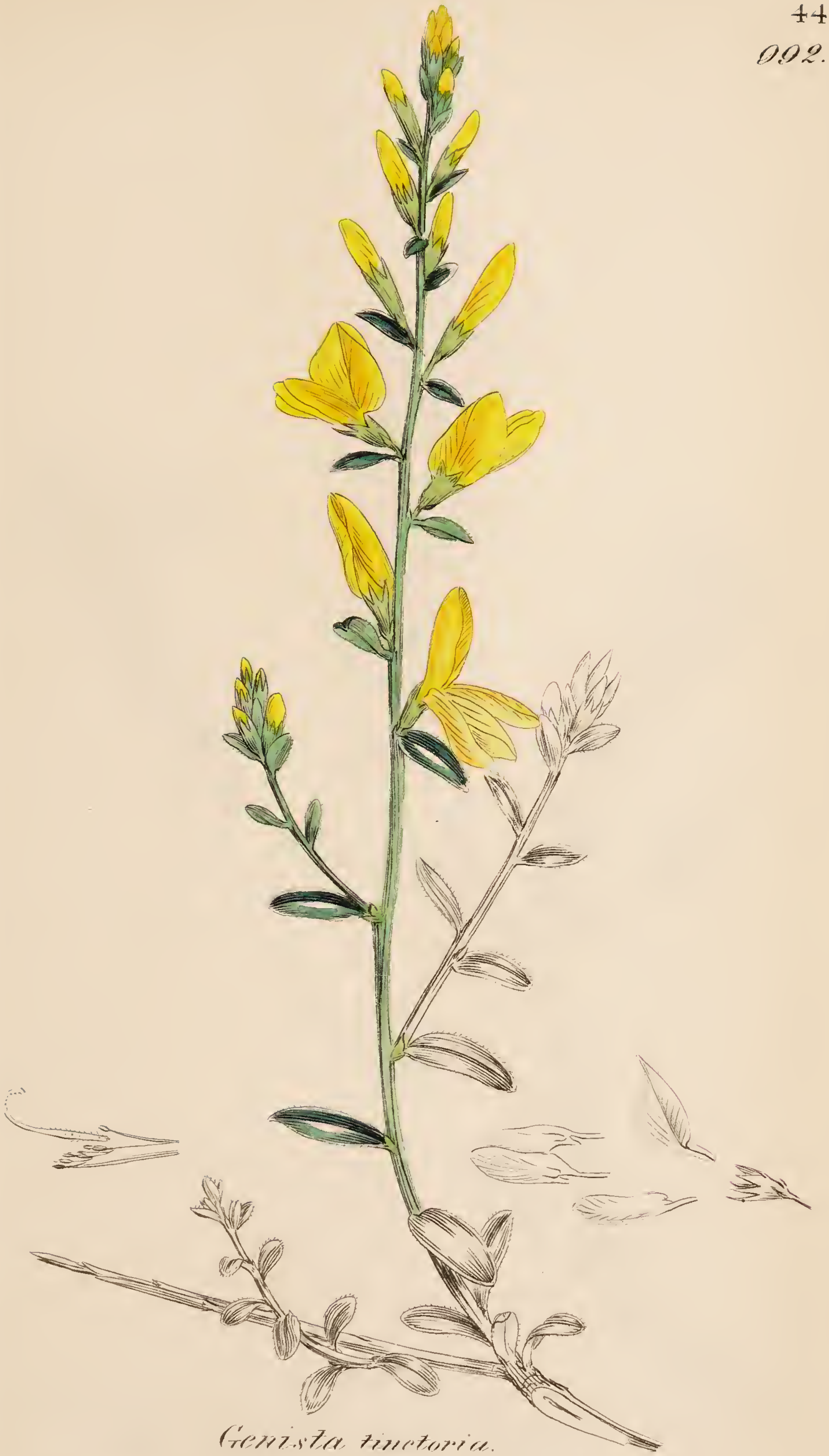

Genista tinctoria.

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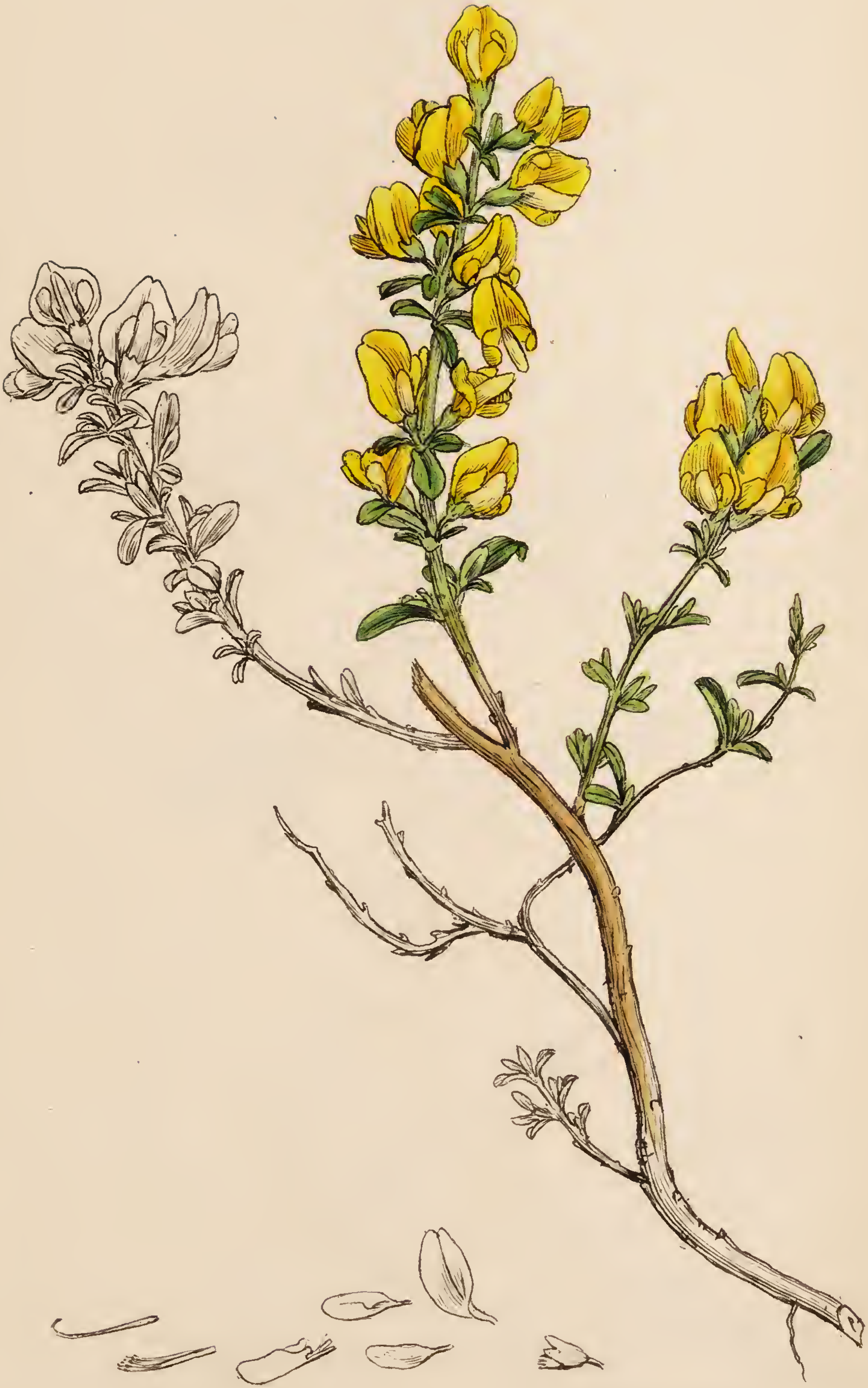
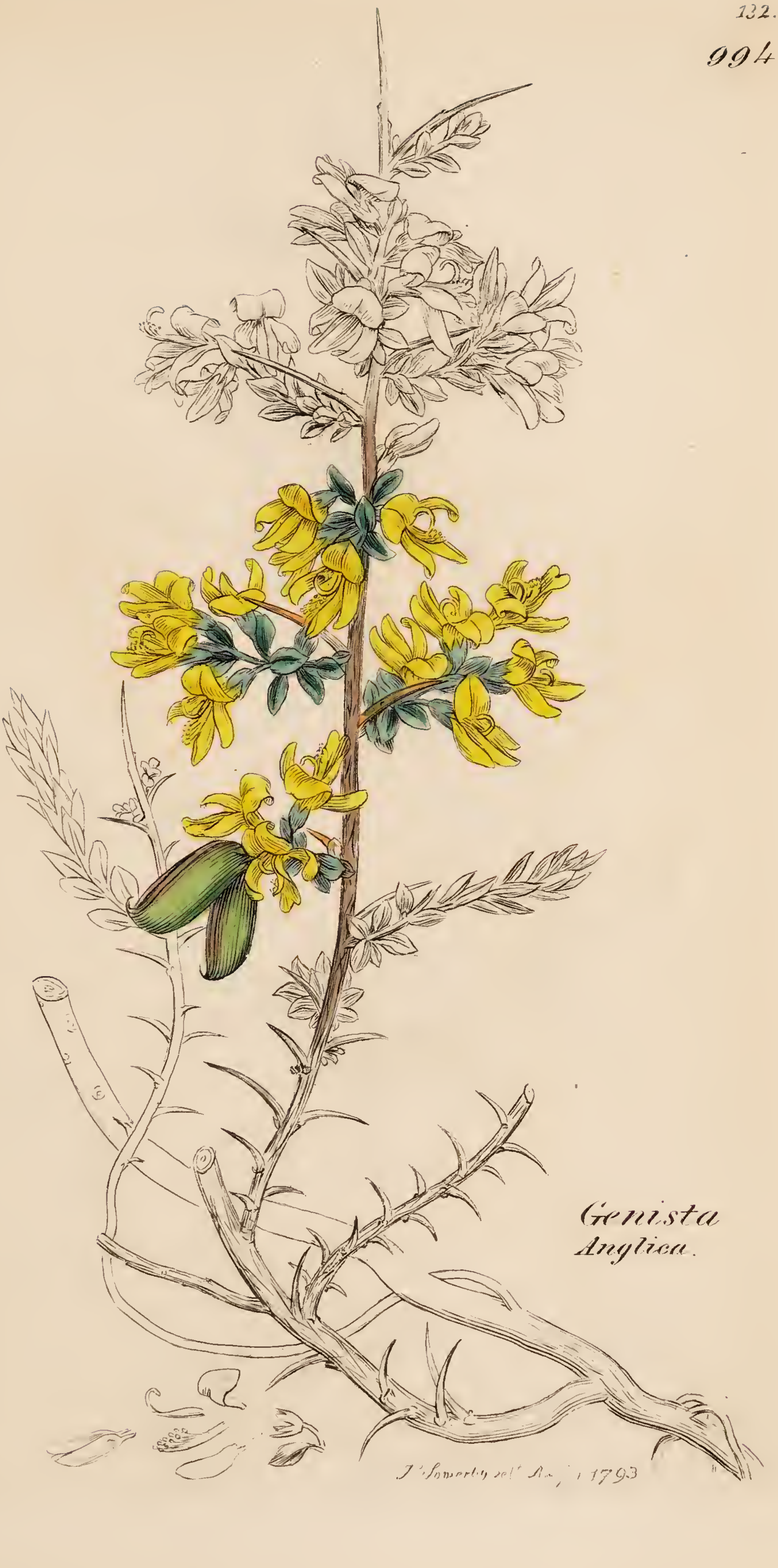


J. Sowerby delt. Octr. 1 1794

Genista pilosa.

132.

994

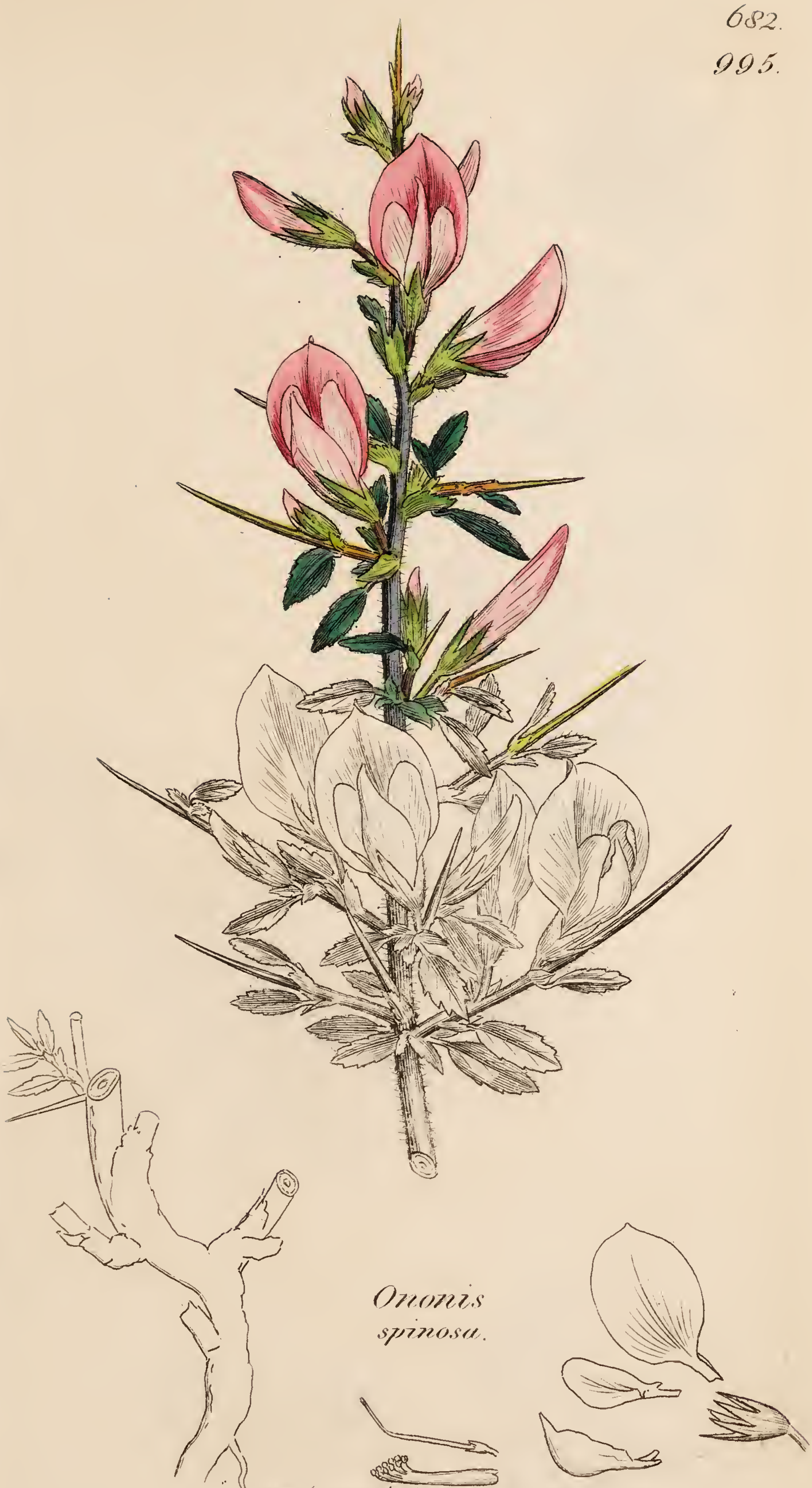


Genista
Anglica.

J. Sowerby delt Aug 1 1793

682.

995.

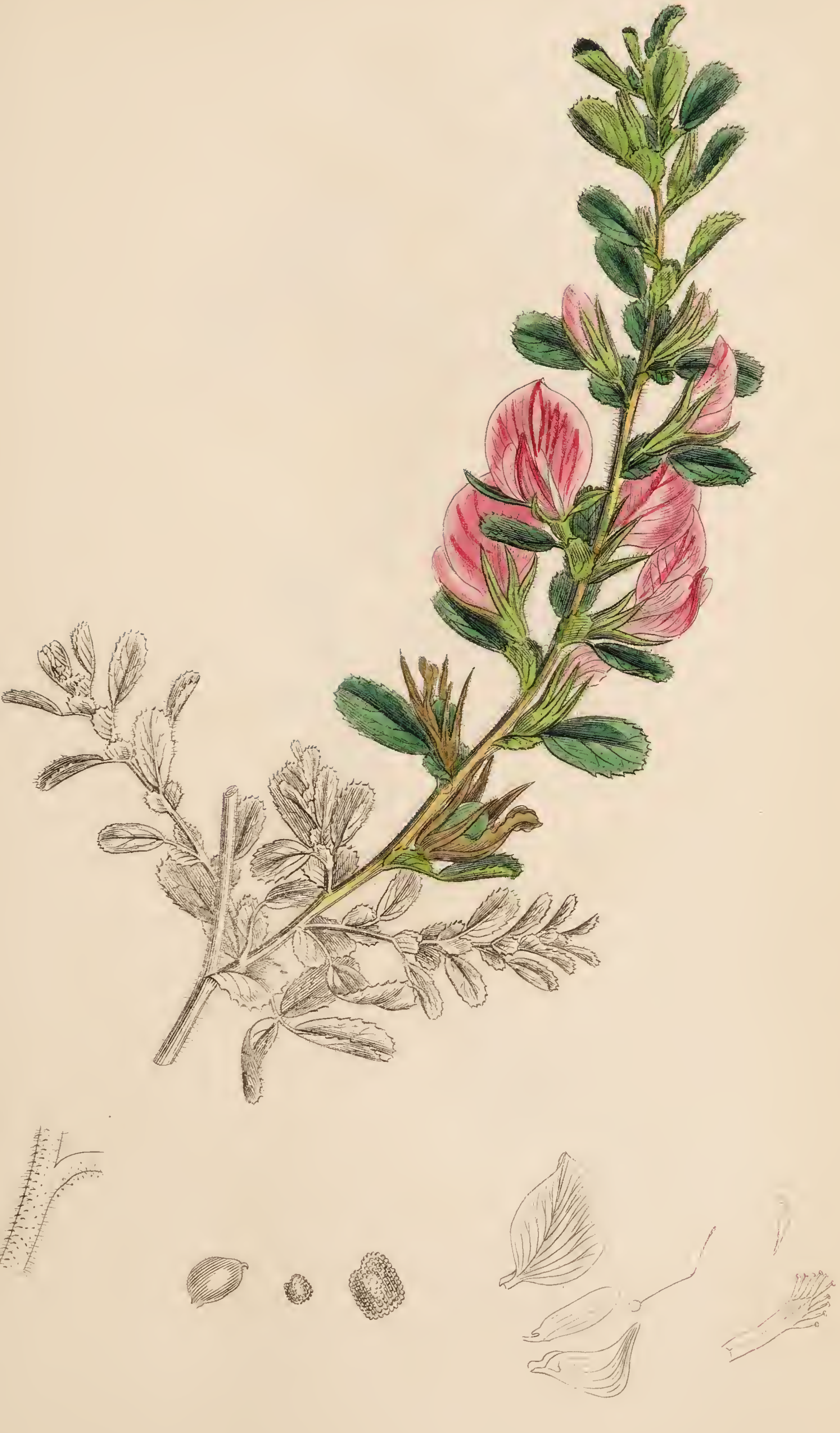


Ononis
spinosa.

[illegible]

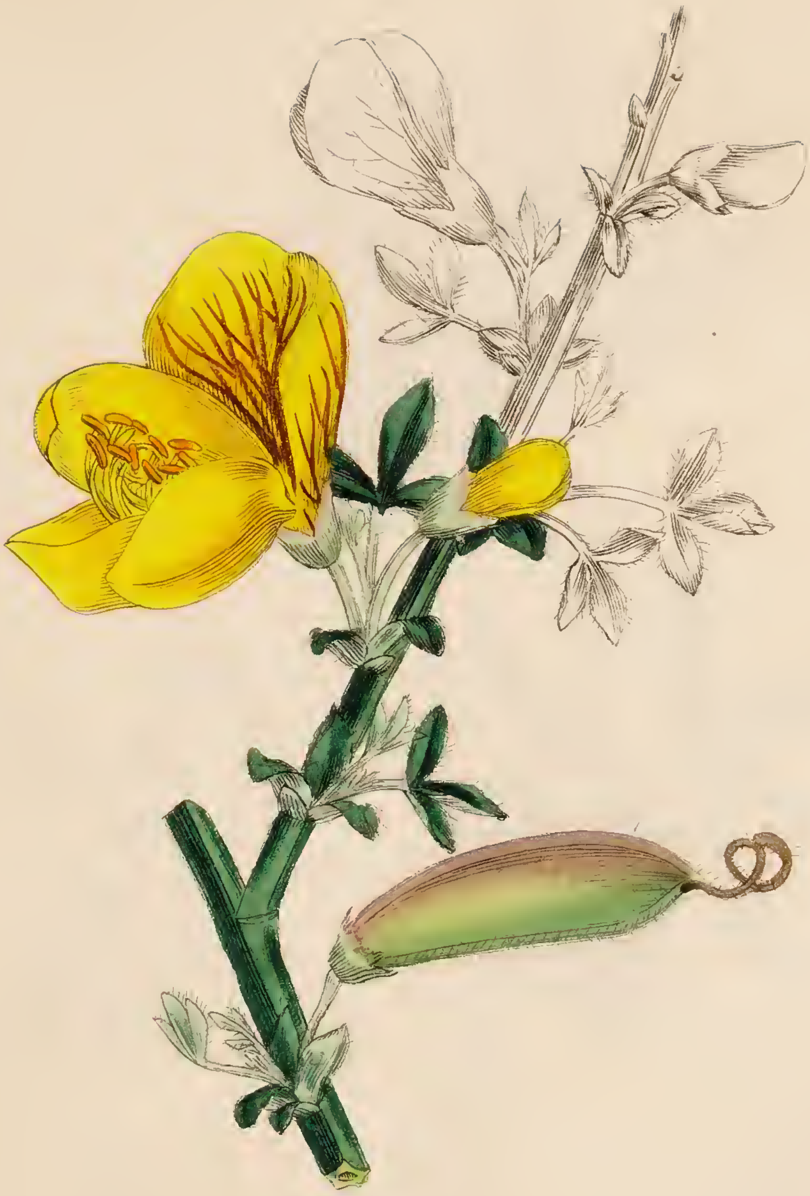
2659.

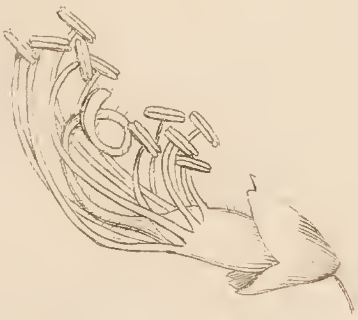
995 *



1339

996.



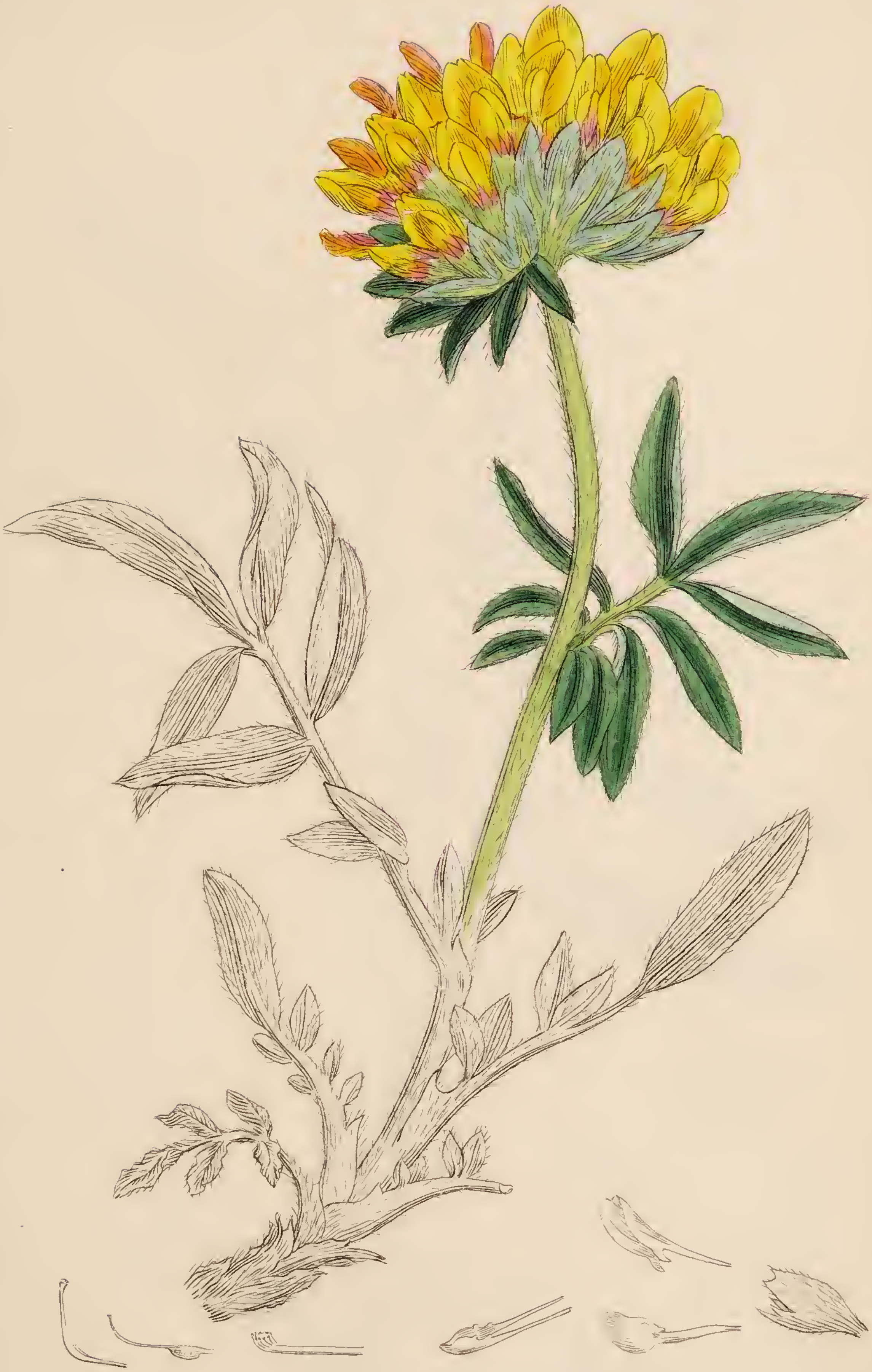


Cytisus Scoparius.

Augt 1. 1804 Published by Jas. Sowerby. London

104

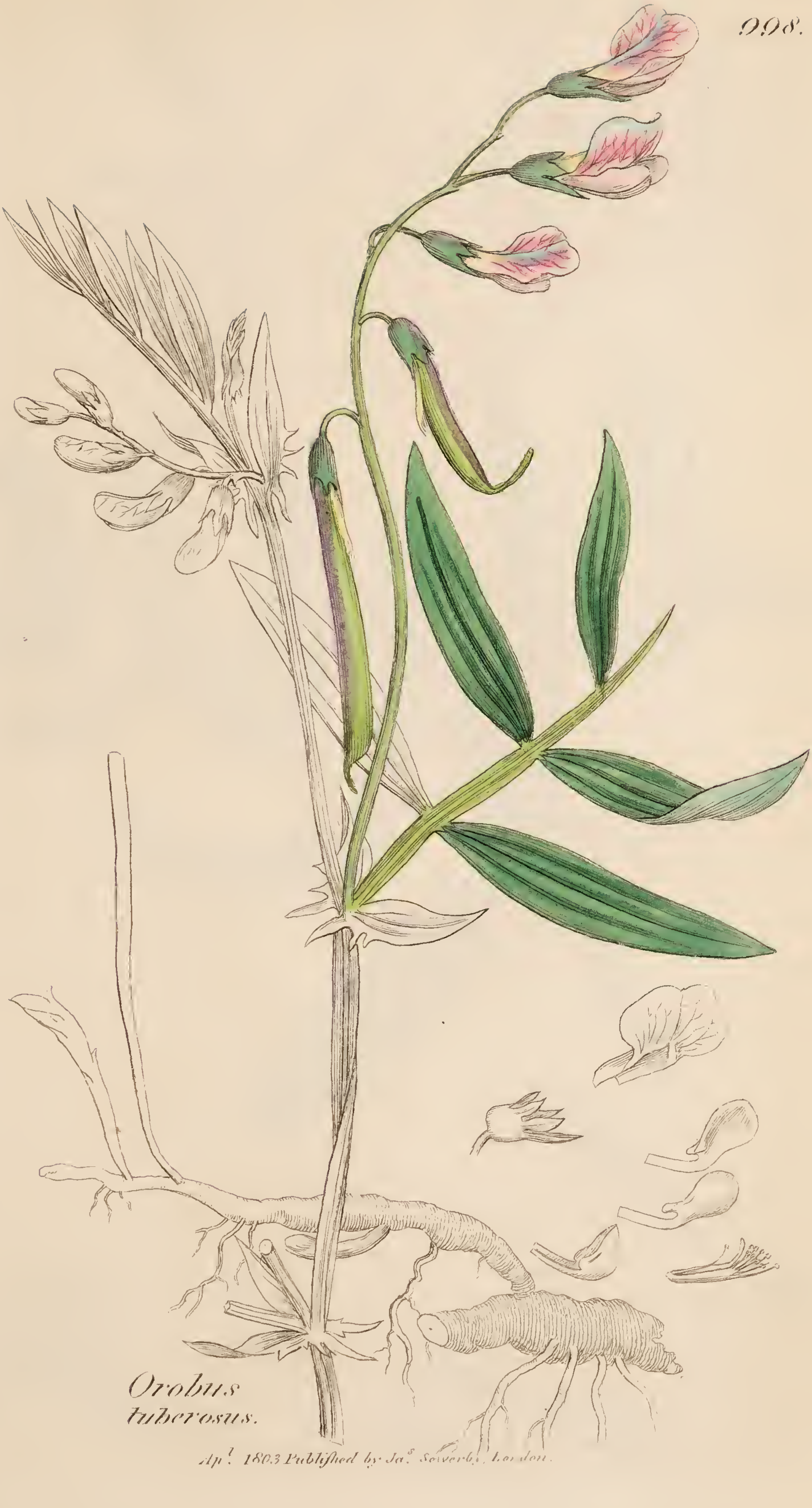
997.



Anthyllis Vulneraria.

1153

998.

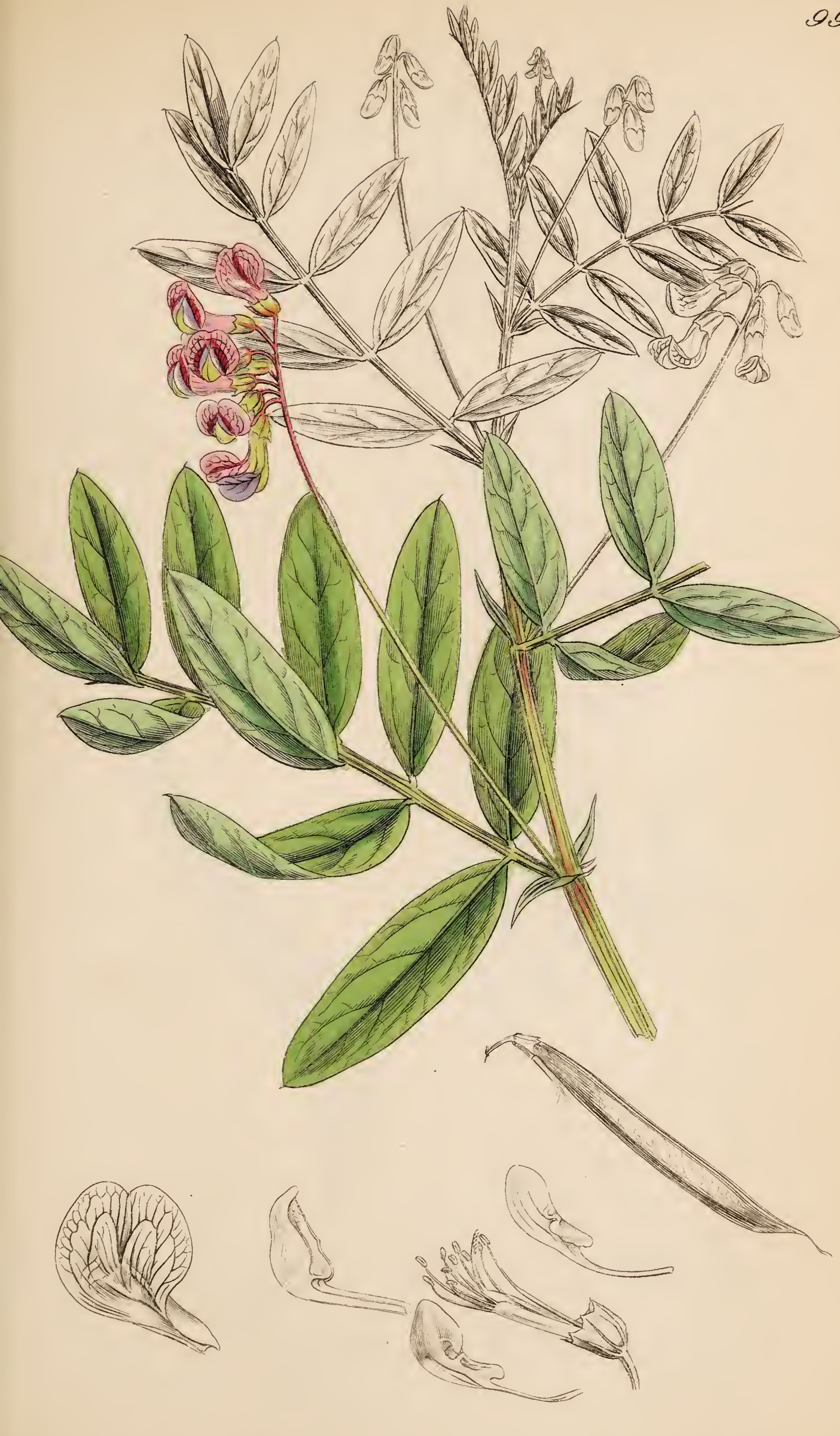


Orobus tuberosus.

Ap^l. 1803 Published by Ja^s. Sowerby, London.

2788.

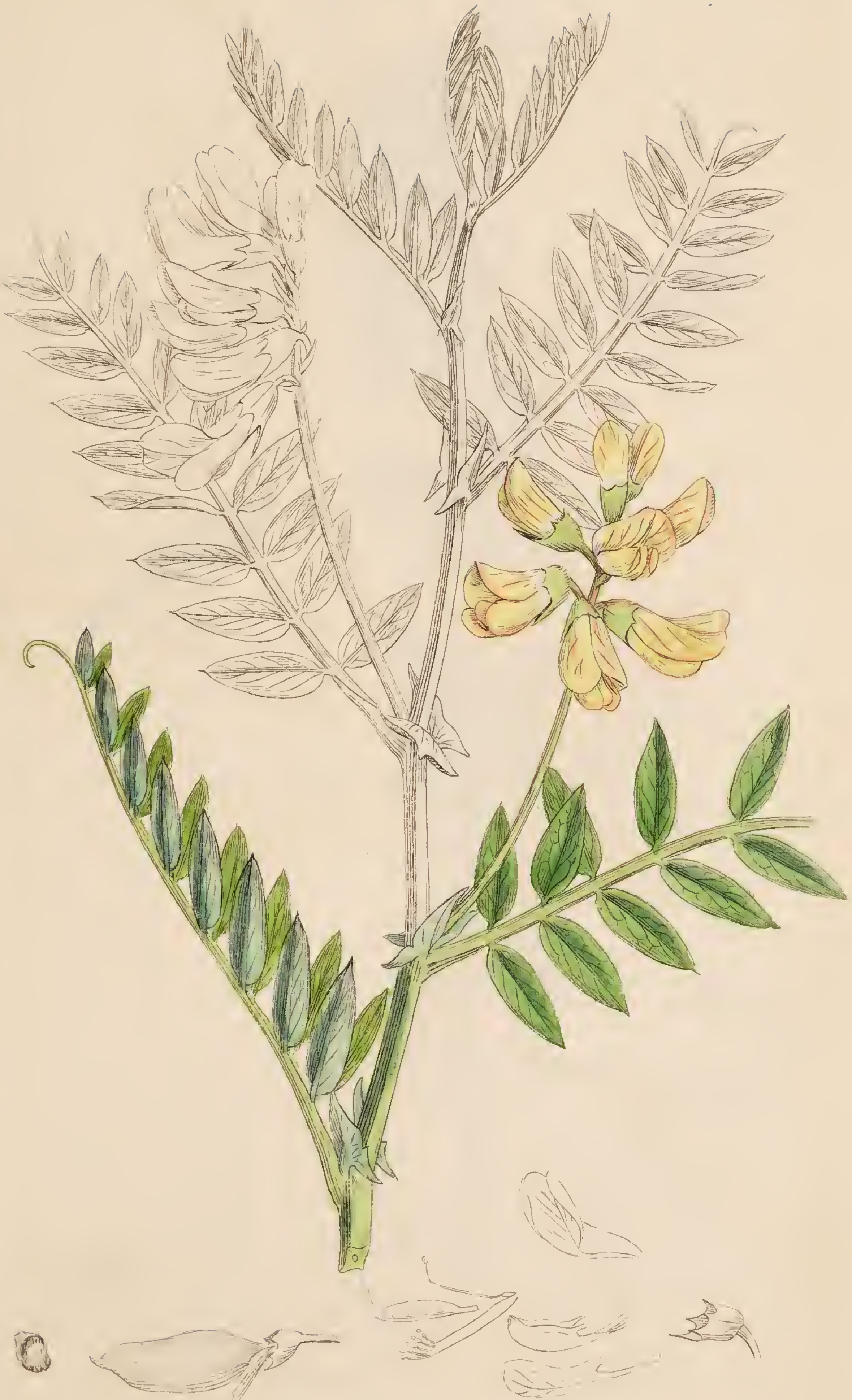
998*



August 1st 1834.

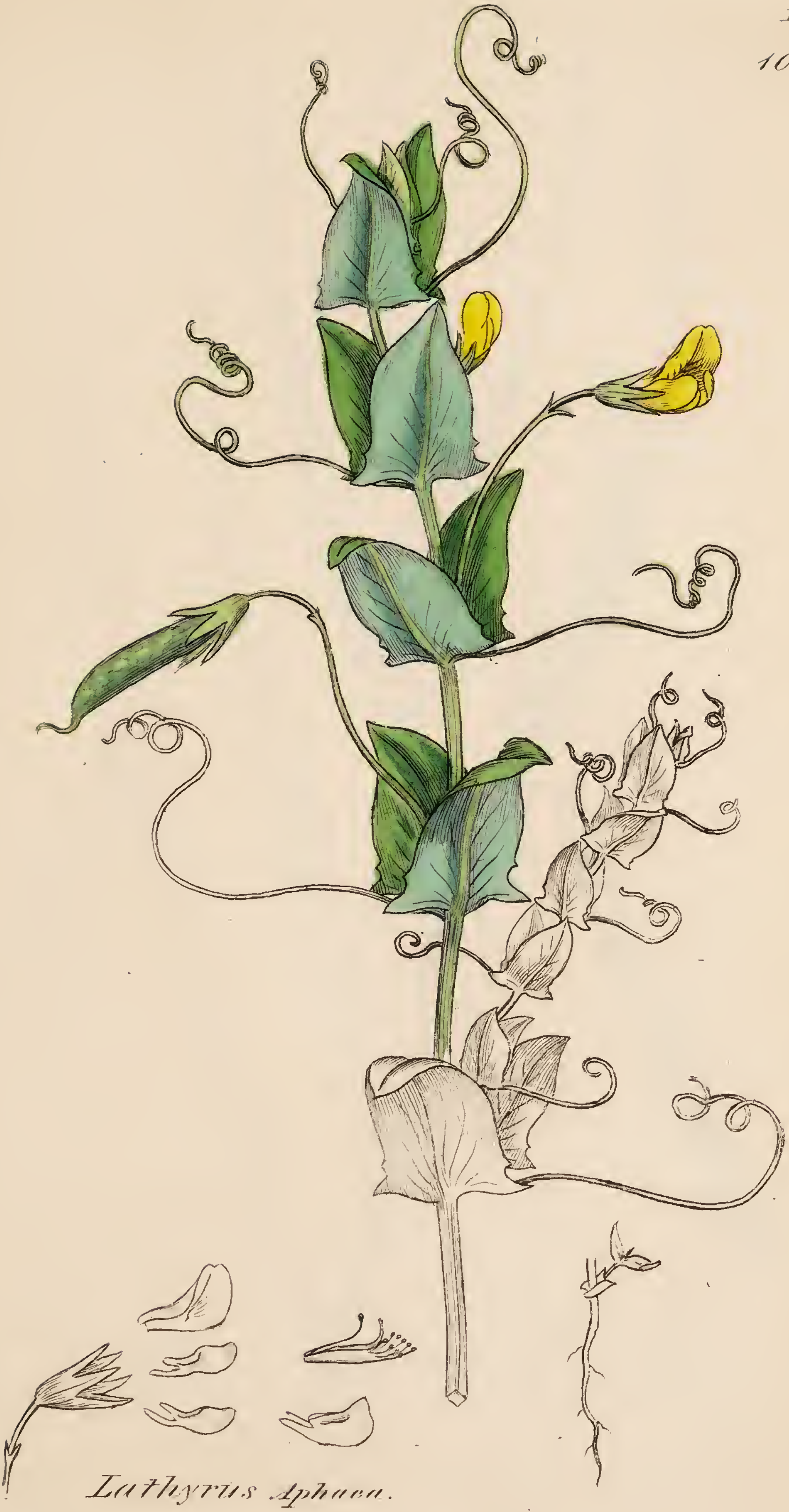
518

999.



Orobus sylvaticus

1167
1000.

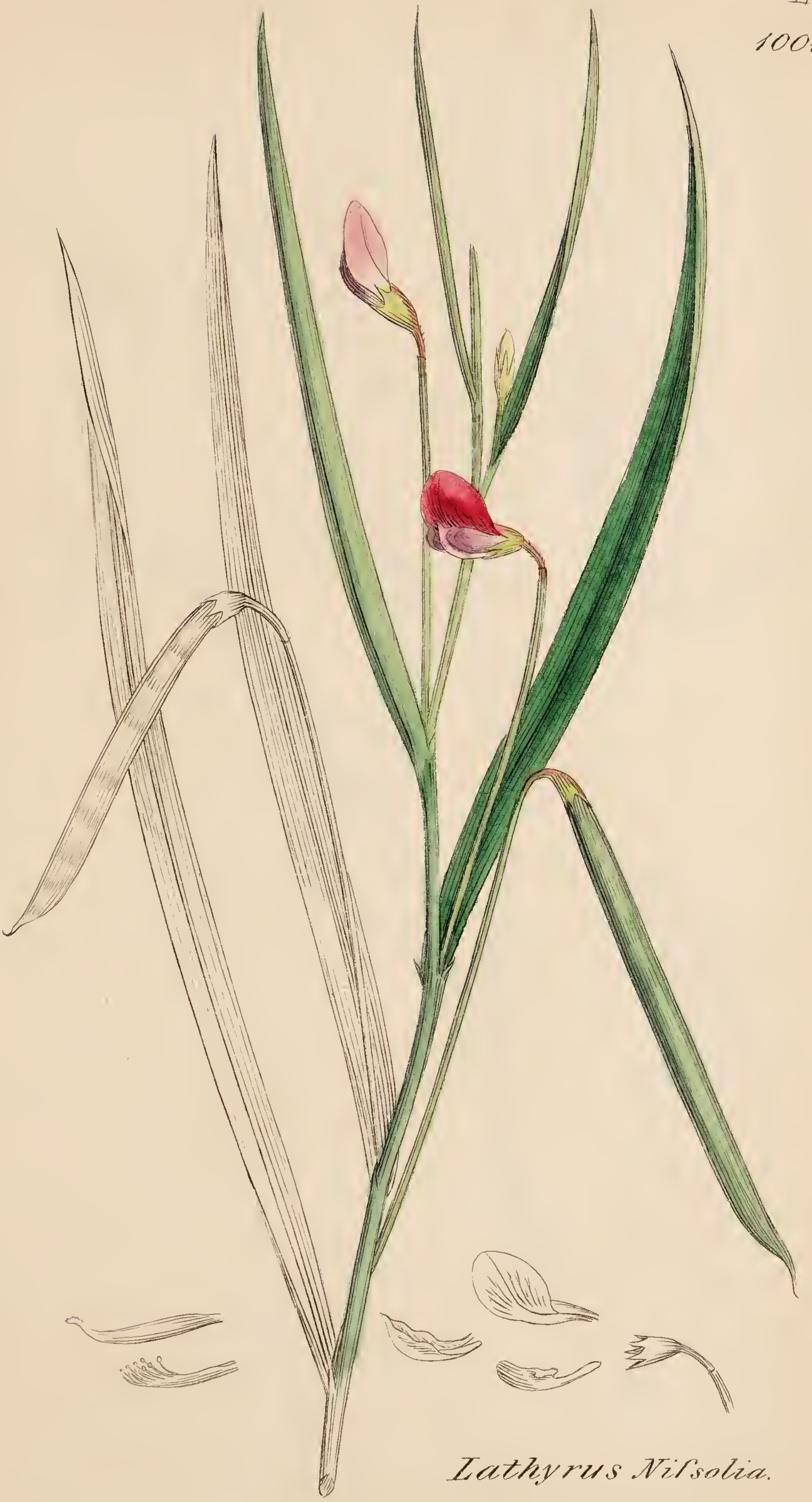


Lathyrus Aphaca.

May 1 1803 Publiſhed by Ja^{s} Sowerby London.

112.

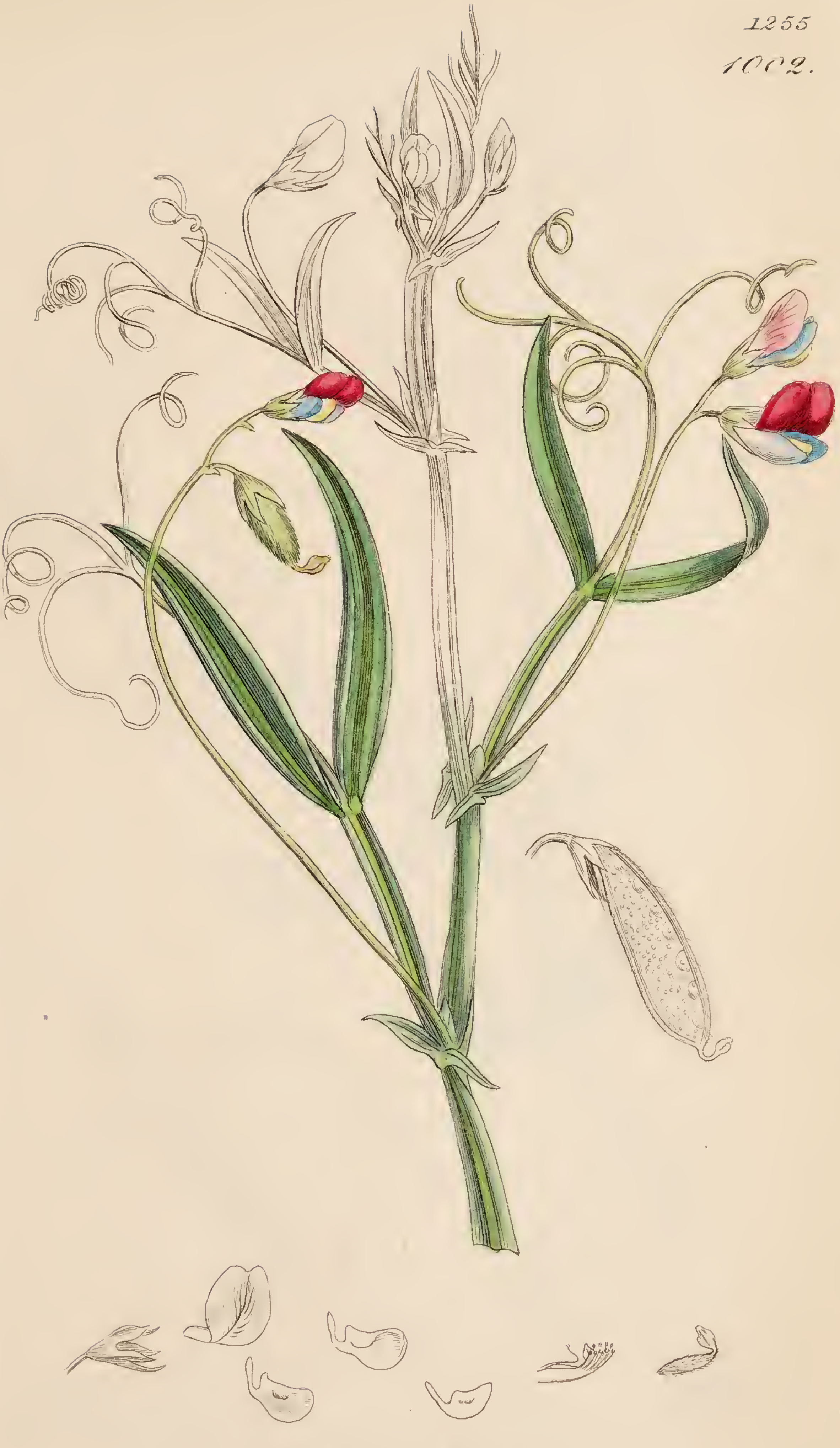
1001.



Lathyrus Niſsolia.

1255

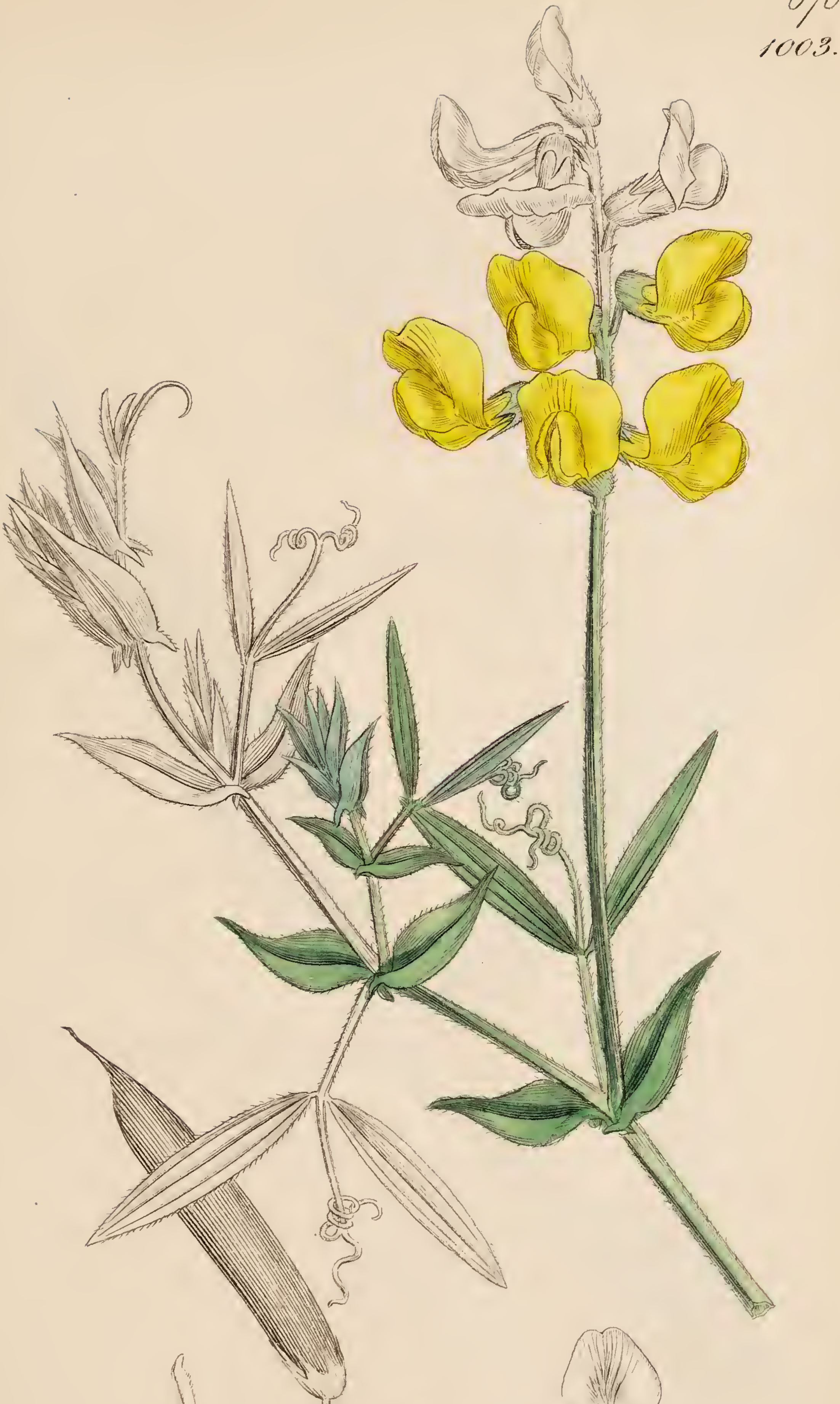
1002.



Lathyrus hirsutus.

Jan.y 1 1804. Publiſhed by Ja.s Sowerby London.

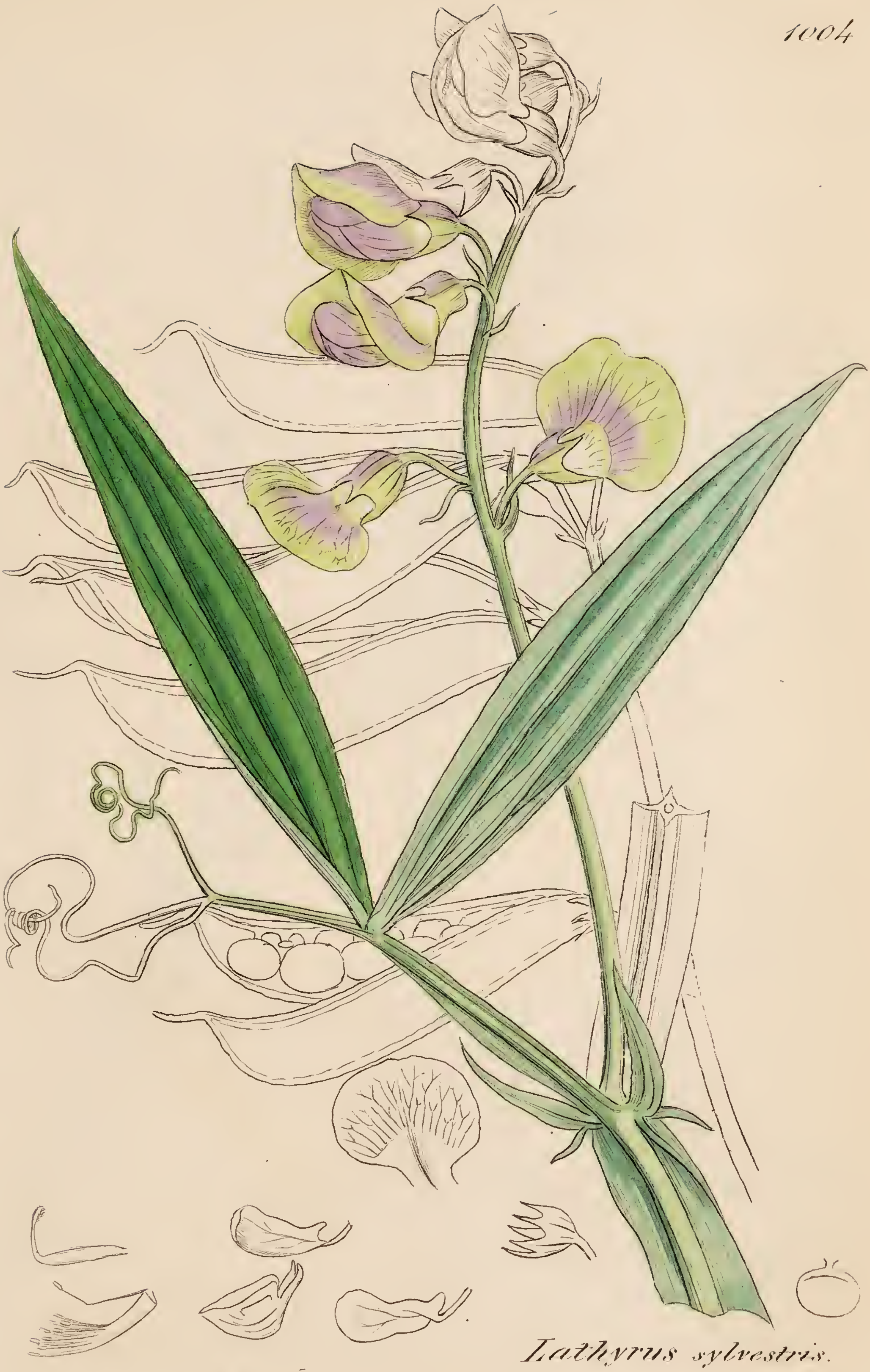
670.
1003.



Lathyrus pratensis.

805.

1004

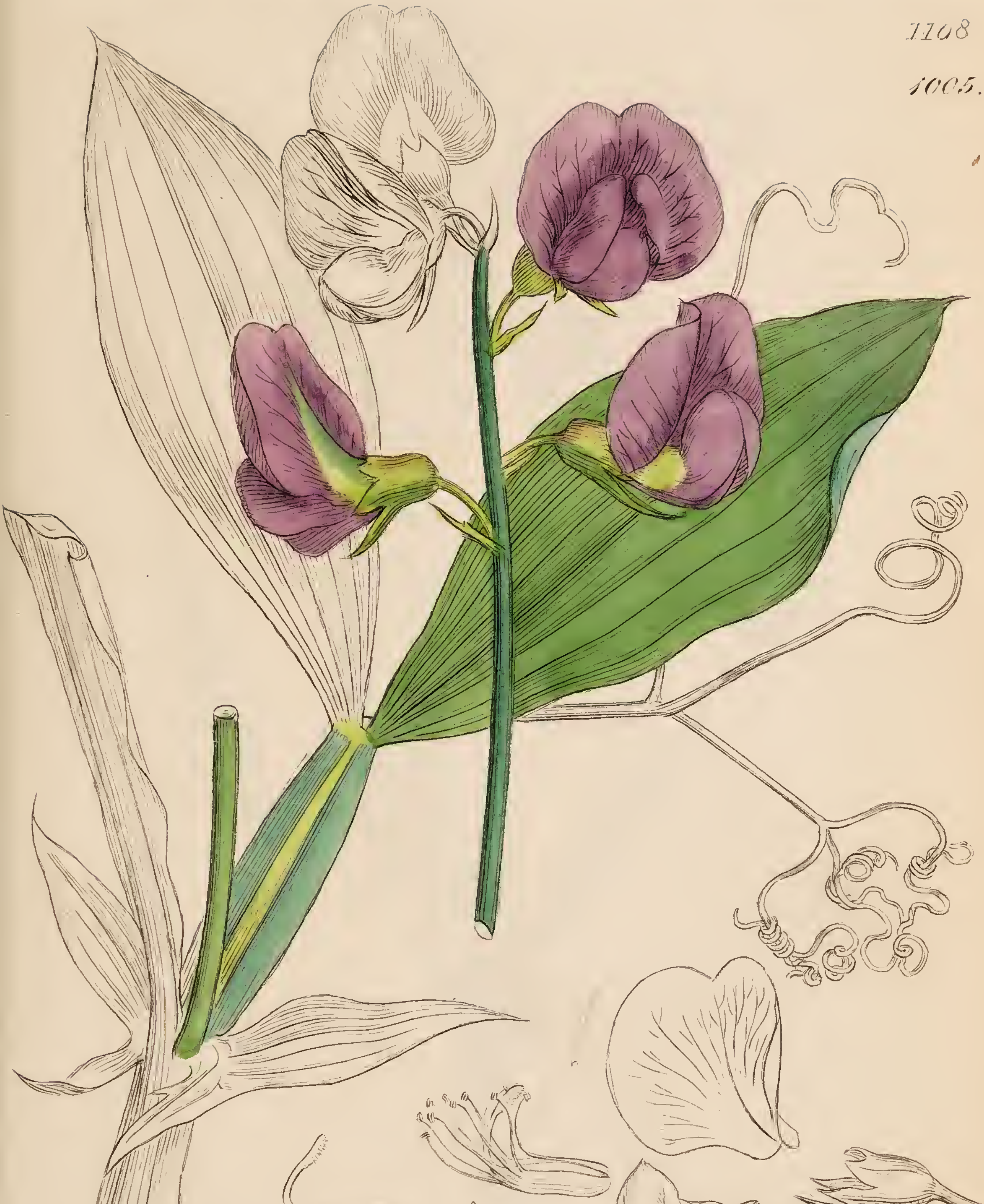


Lathyrus sylvestris.

[illegible]

1108

1005.

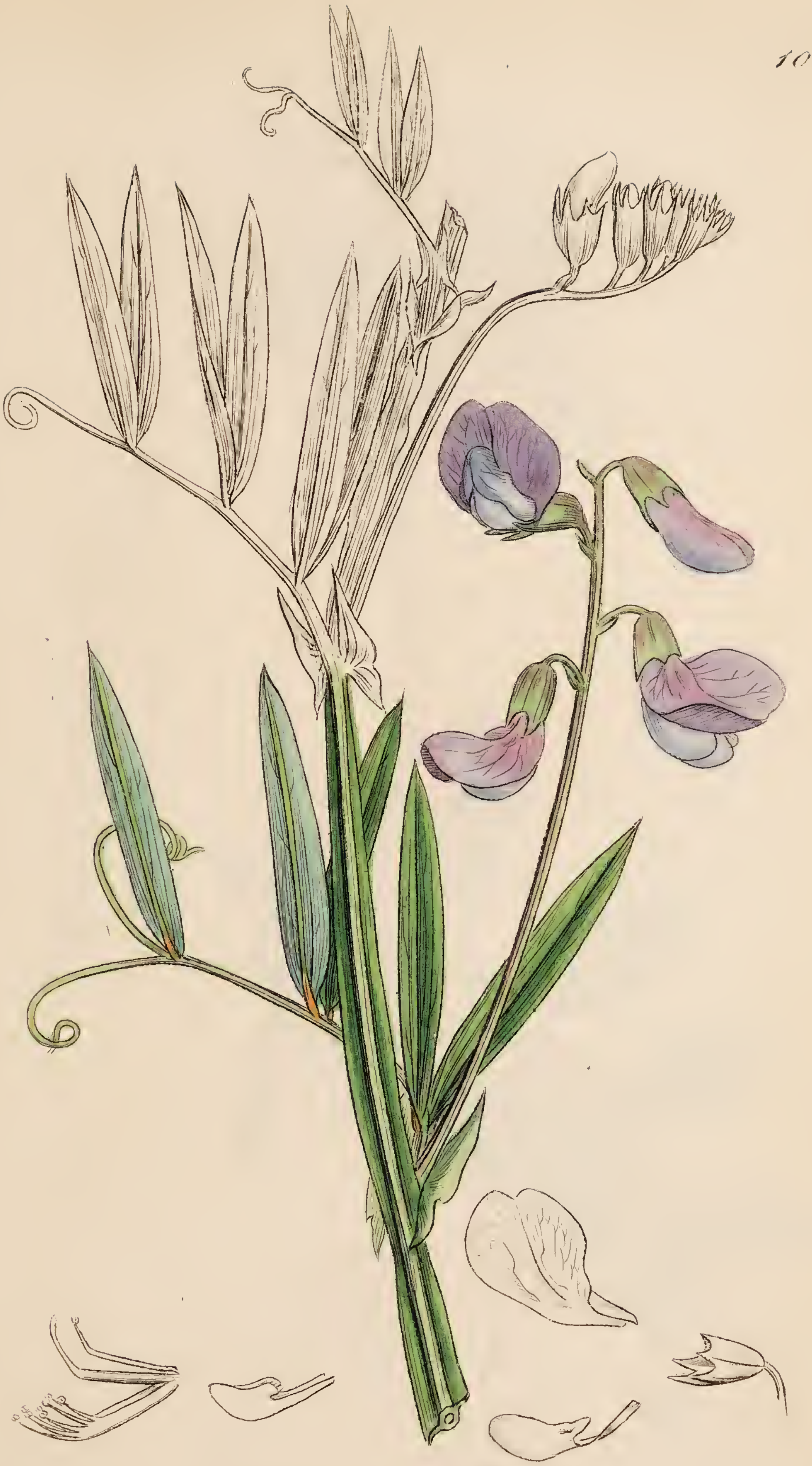


Lathyrus latifolius.

Dec.r 1 1802 Published by Jas. Sowerby London.

169.

1006.

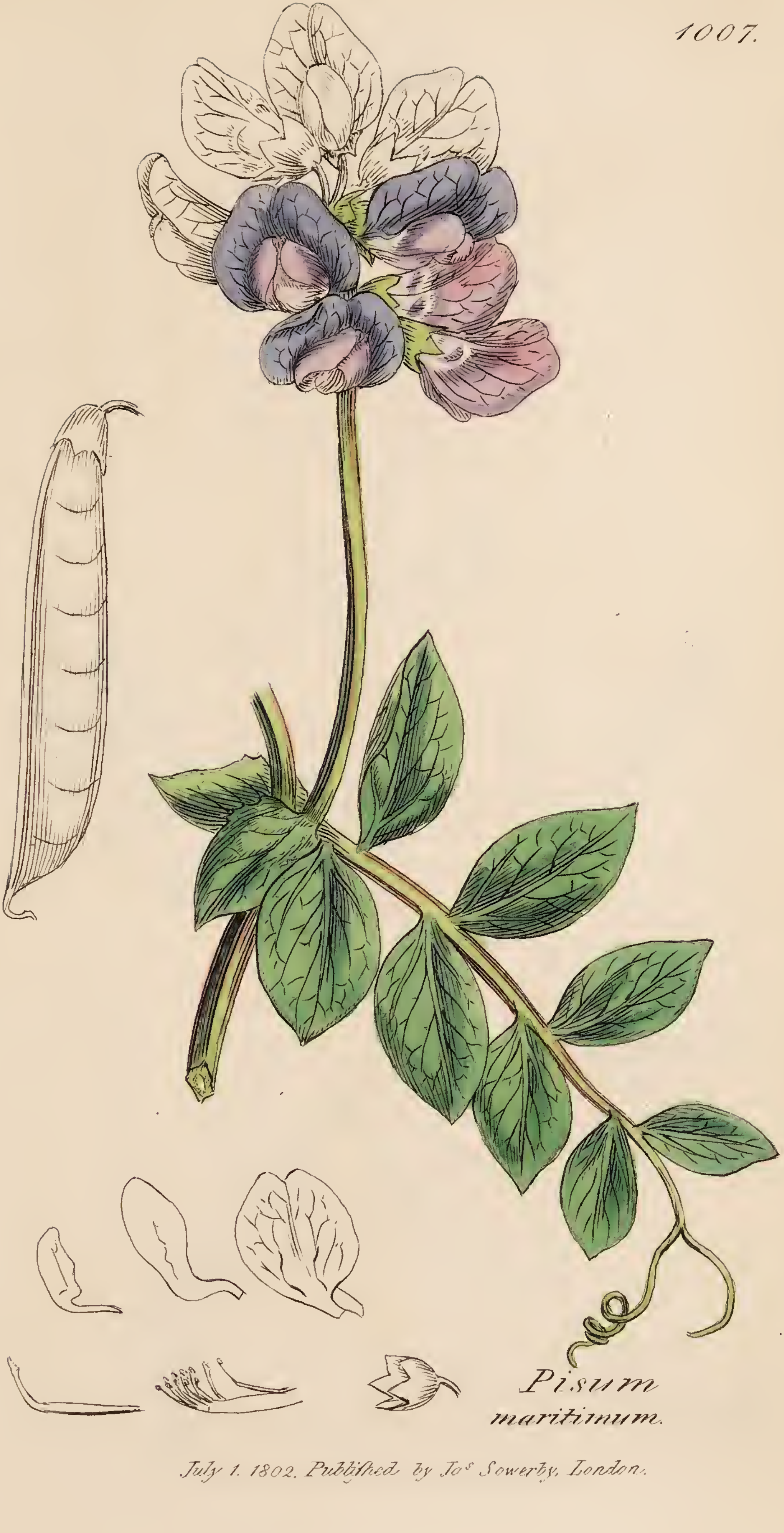


Lathyrus palustris.

J. [illegible] Apl 1 1794.

1046

1007.

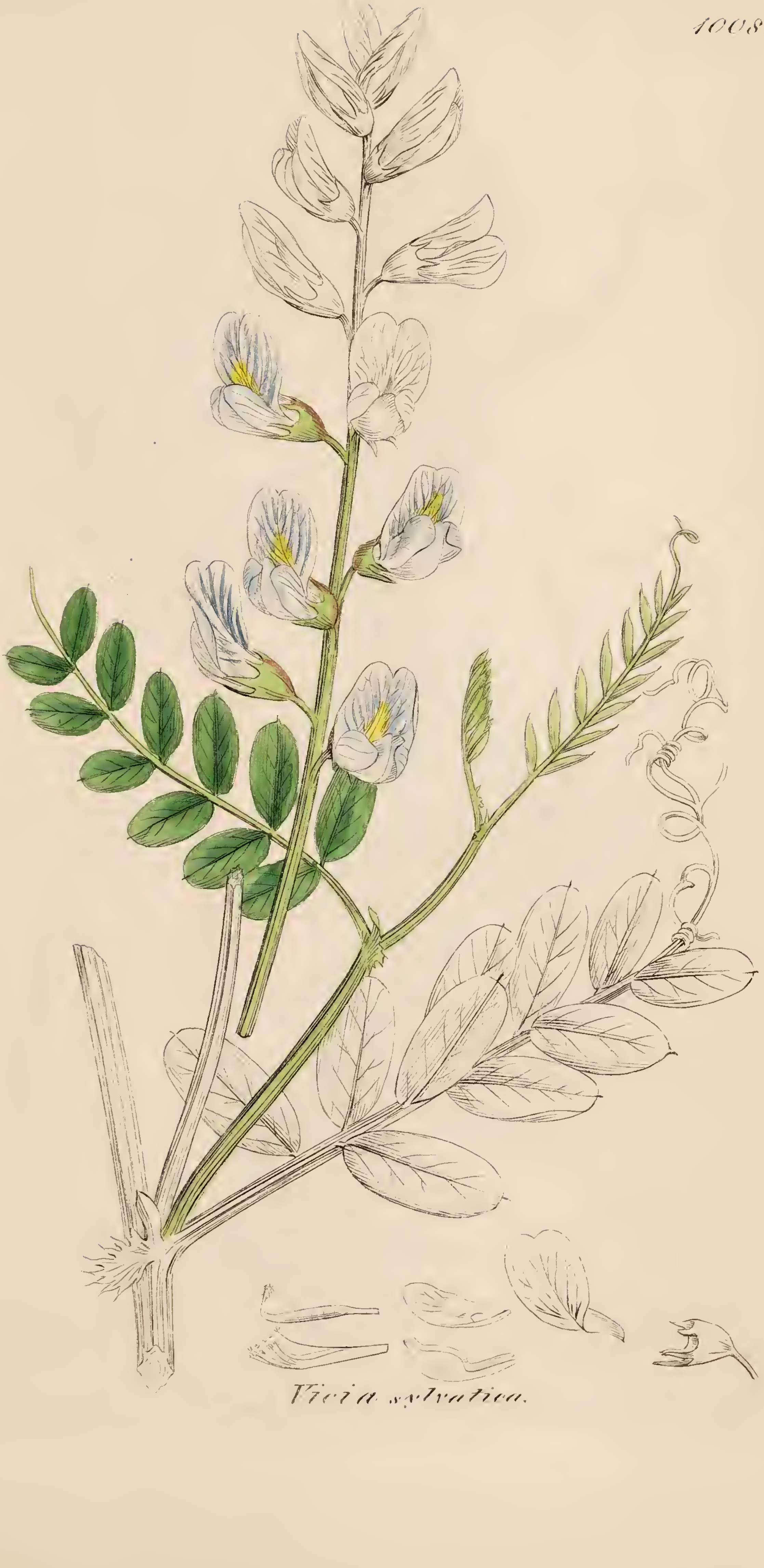


Pisum maritimum.

July 1. 1802. Publiſhed by Jos Sowerby, London.

79

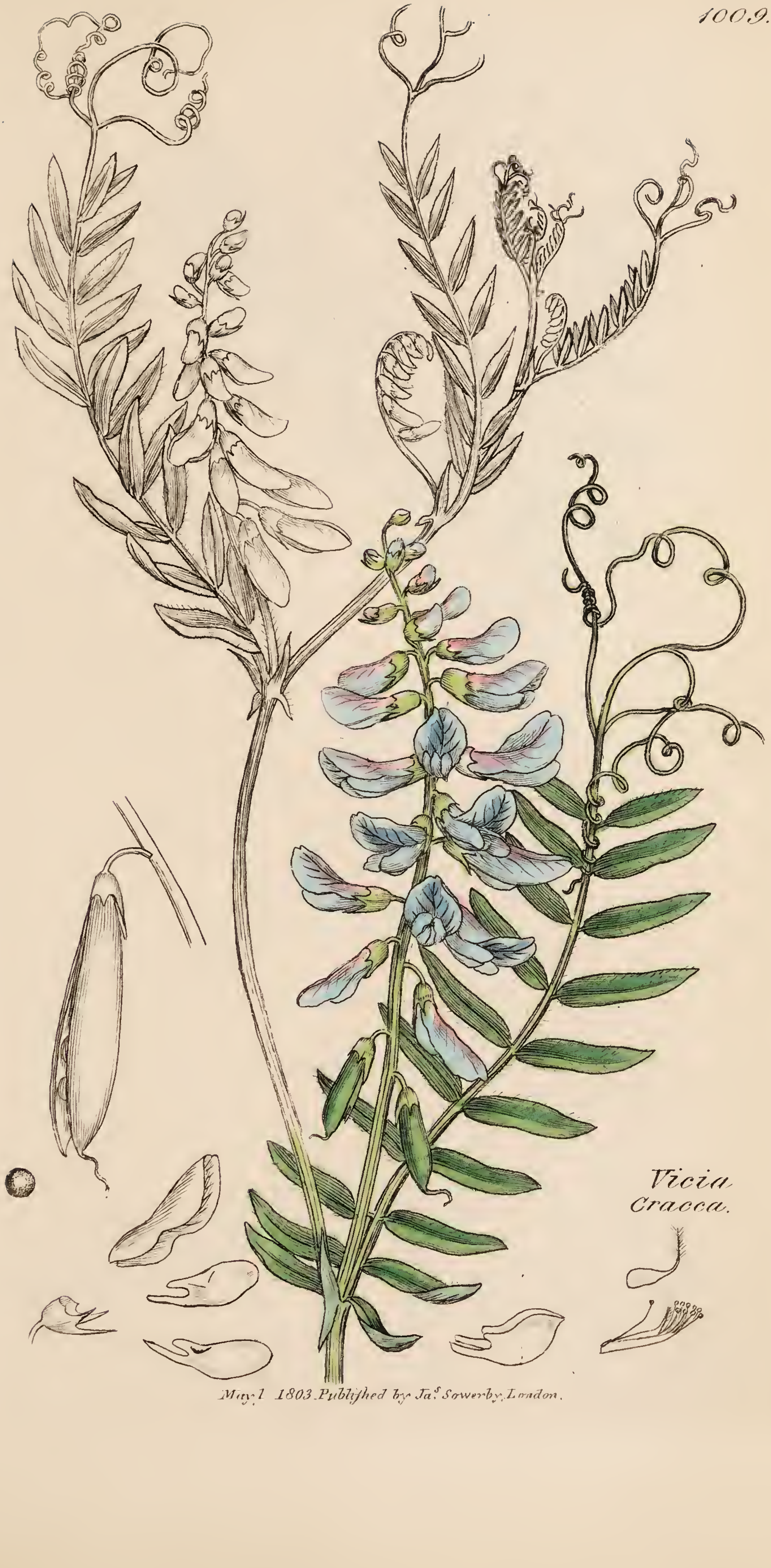
1008.



Vicia sylvatica.

1168

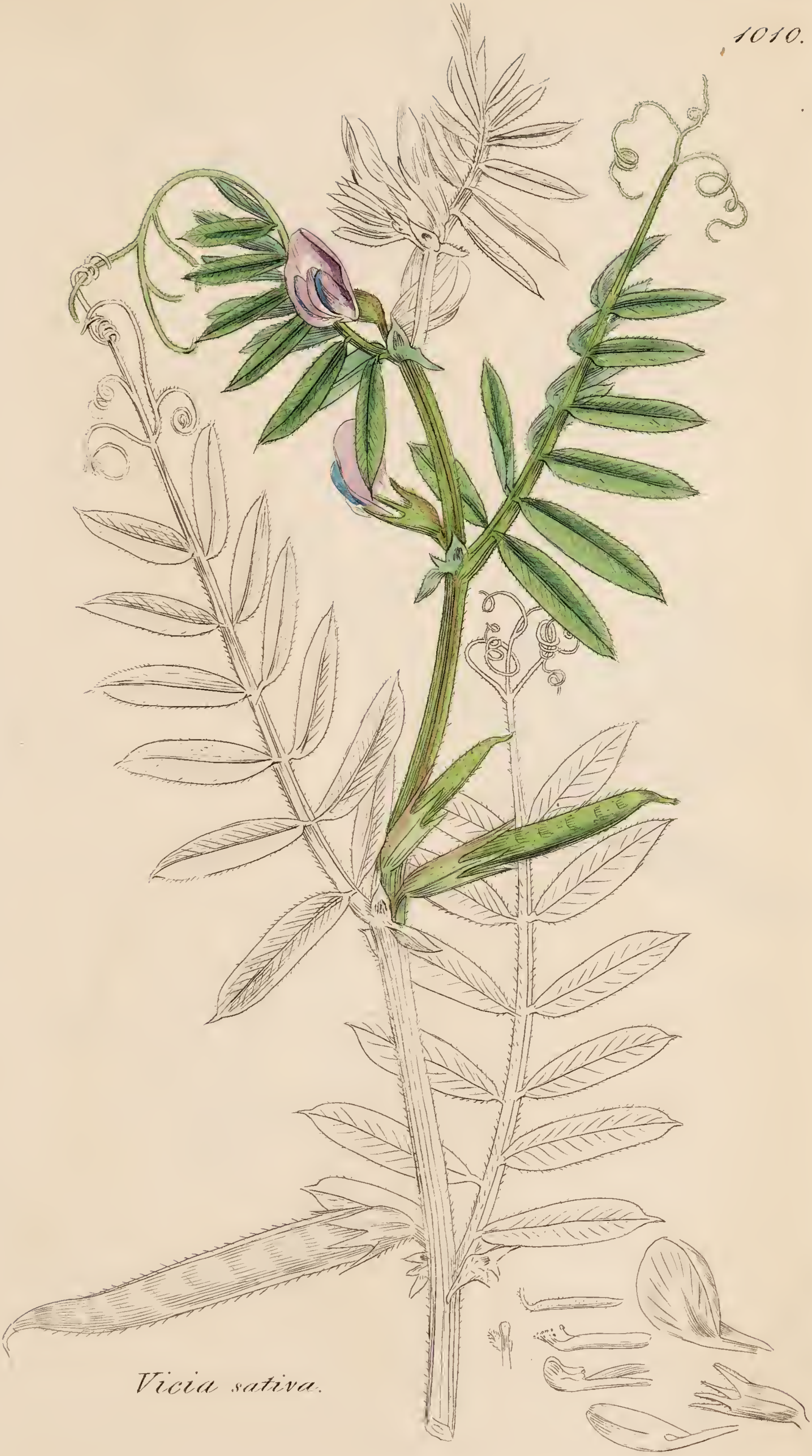
1009.



Vicia Cracca.

May 1 1803. Publiſhed by Ja.s Sowerby, London.

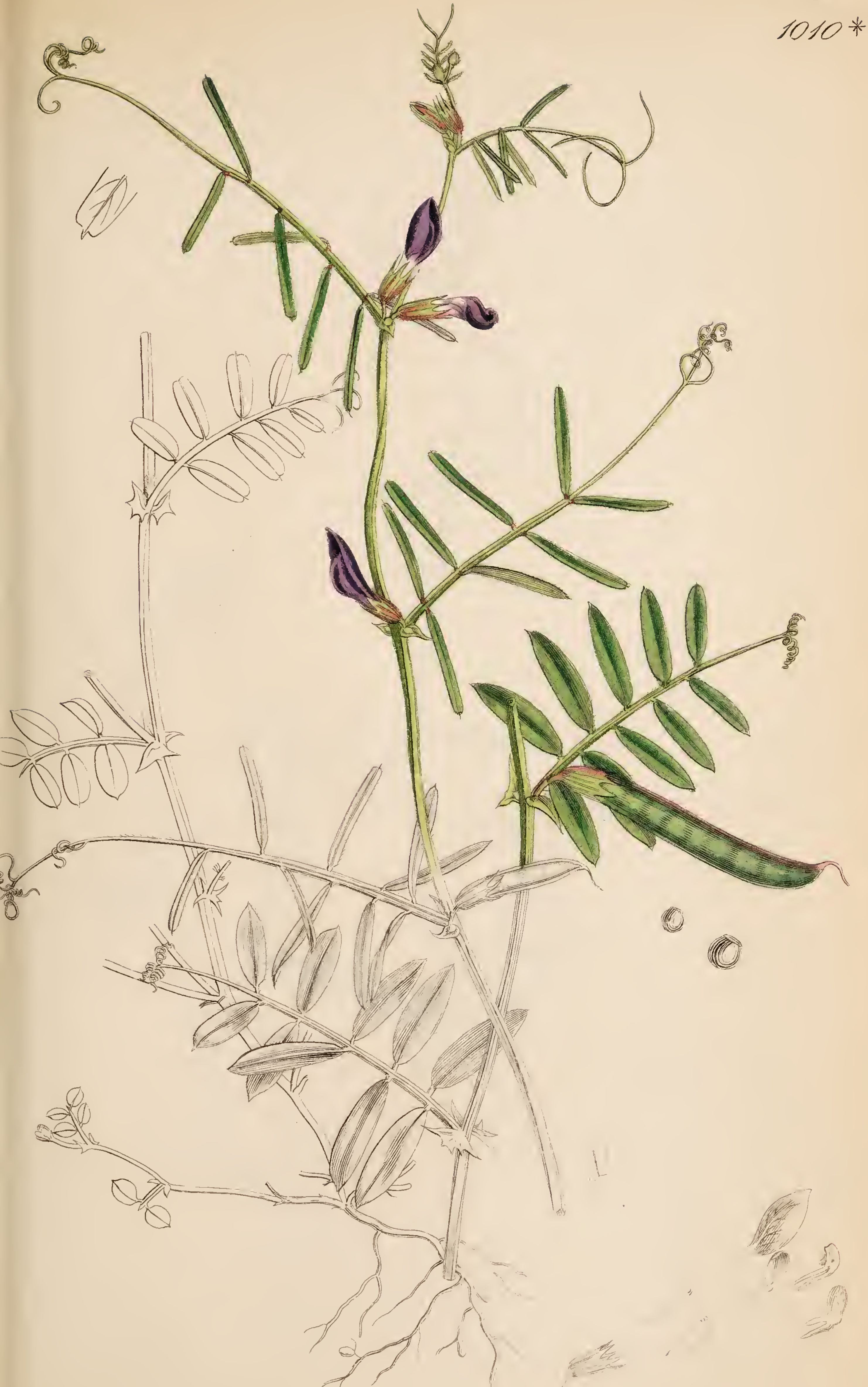
1010.



Vicia sativa.

2614.

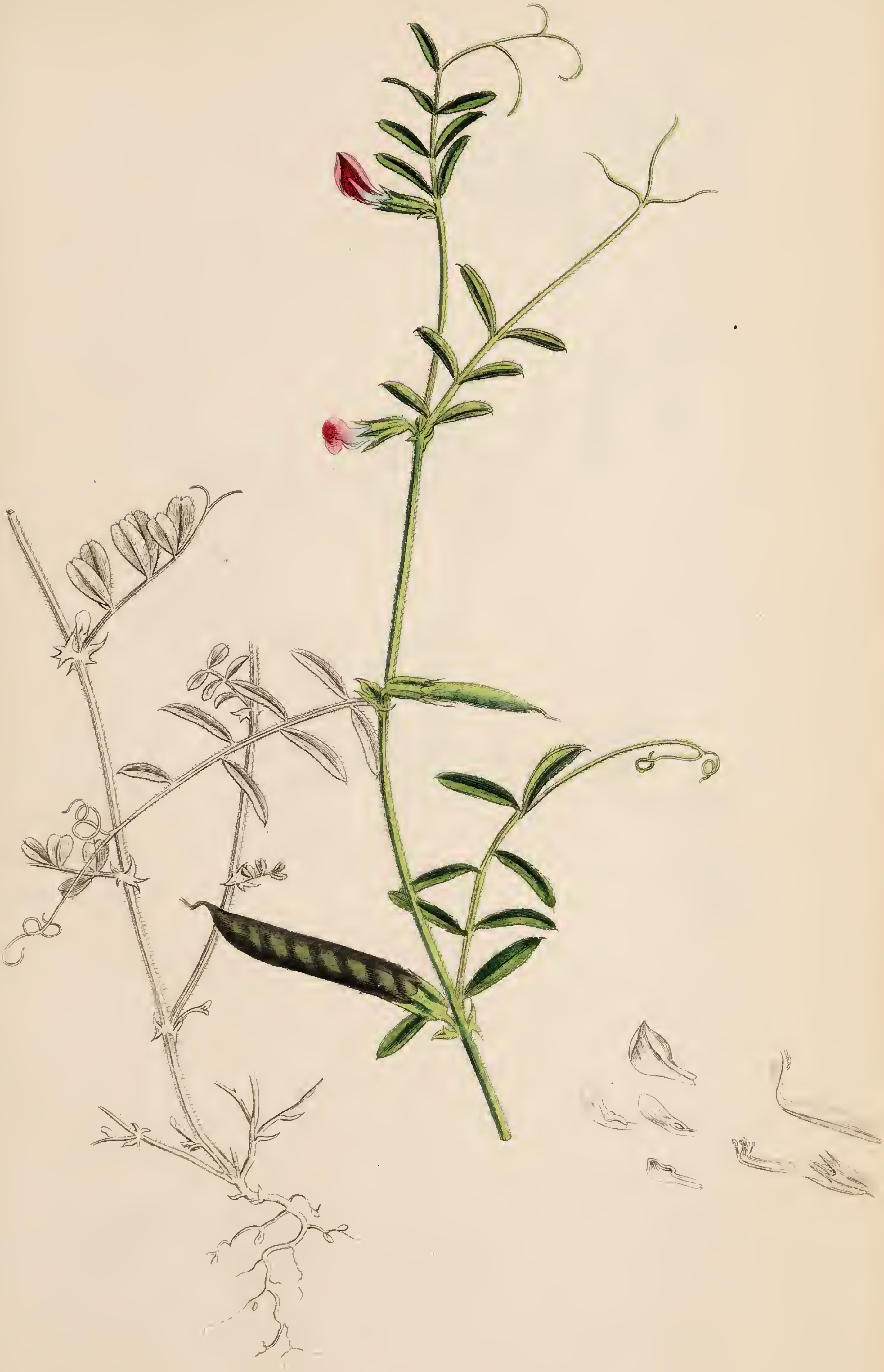
1010*



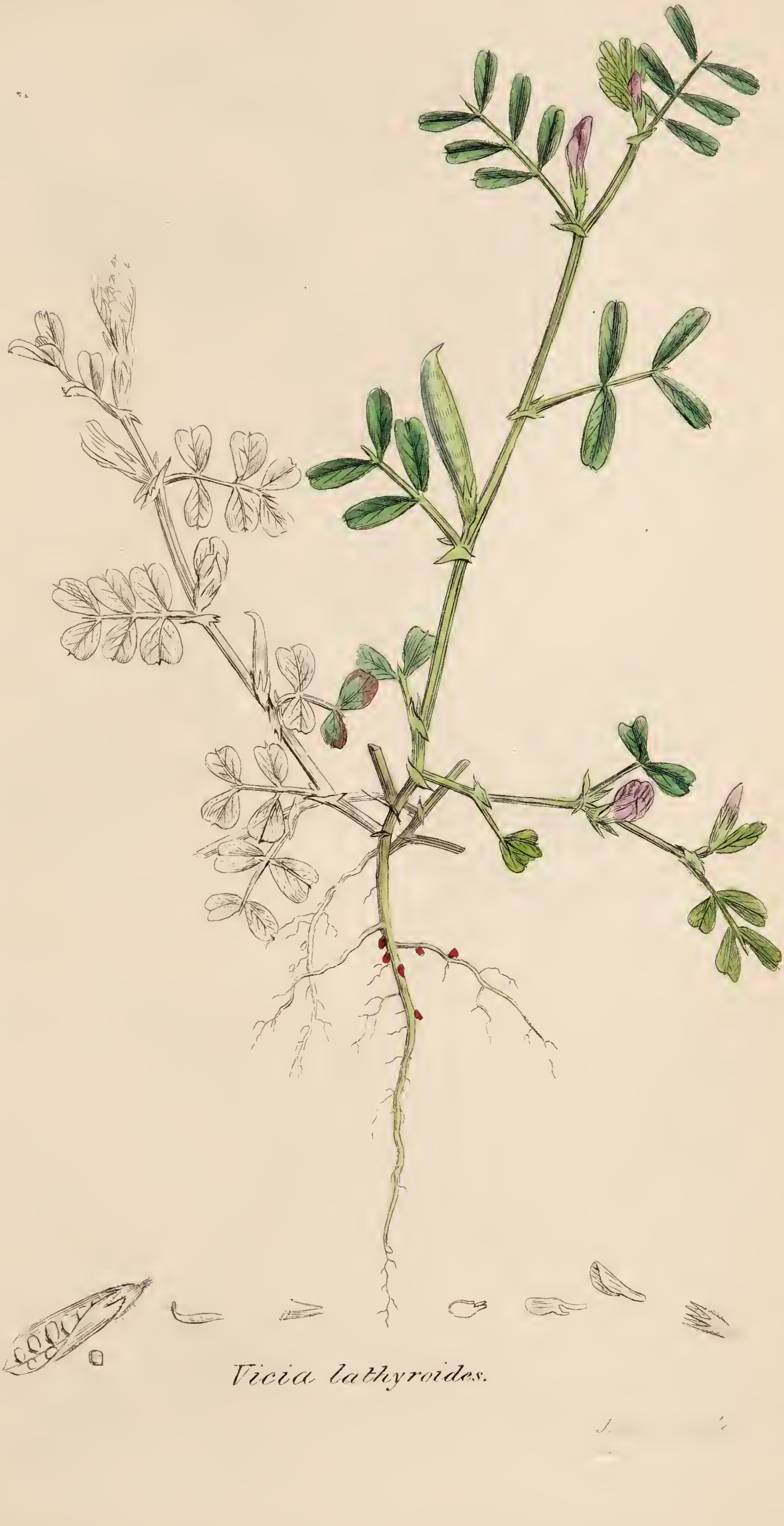
December 1st 1829

2708.

*1010***

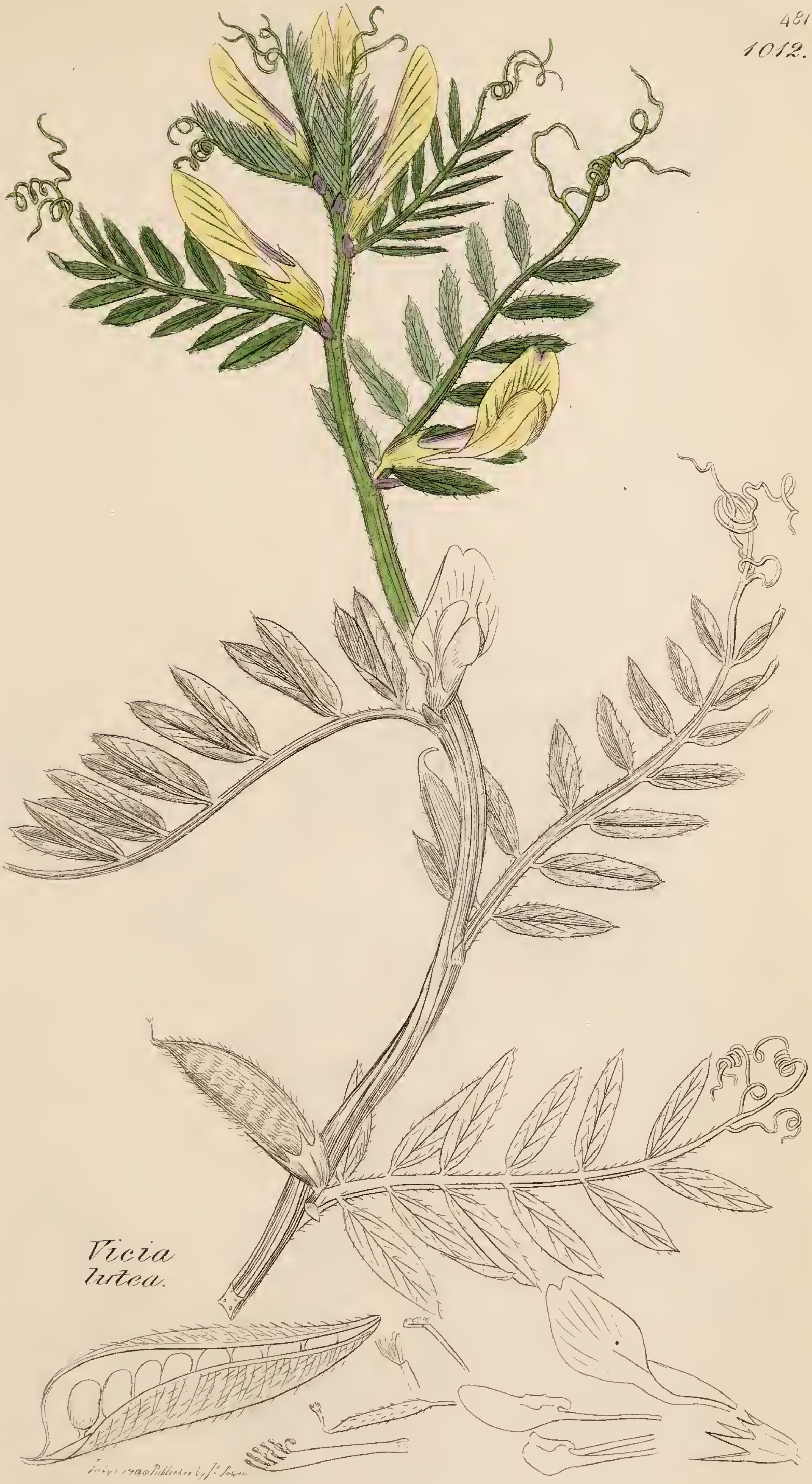


Sept.r 1st 1831.
"



Vicia lathyroides.

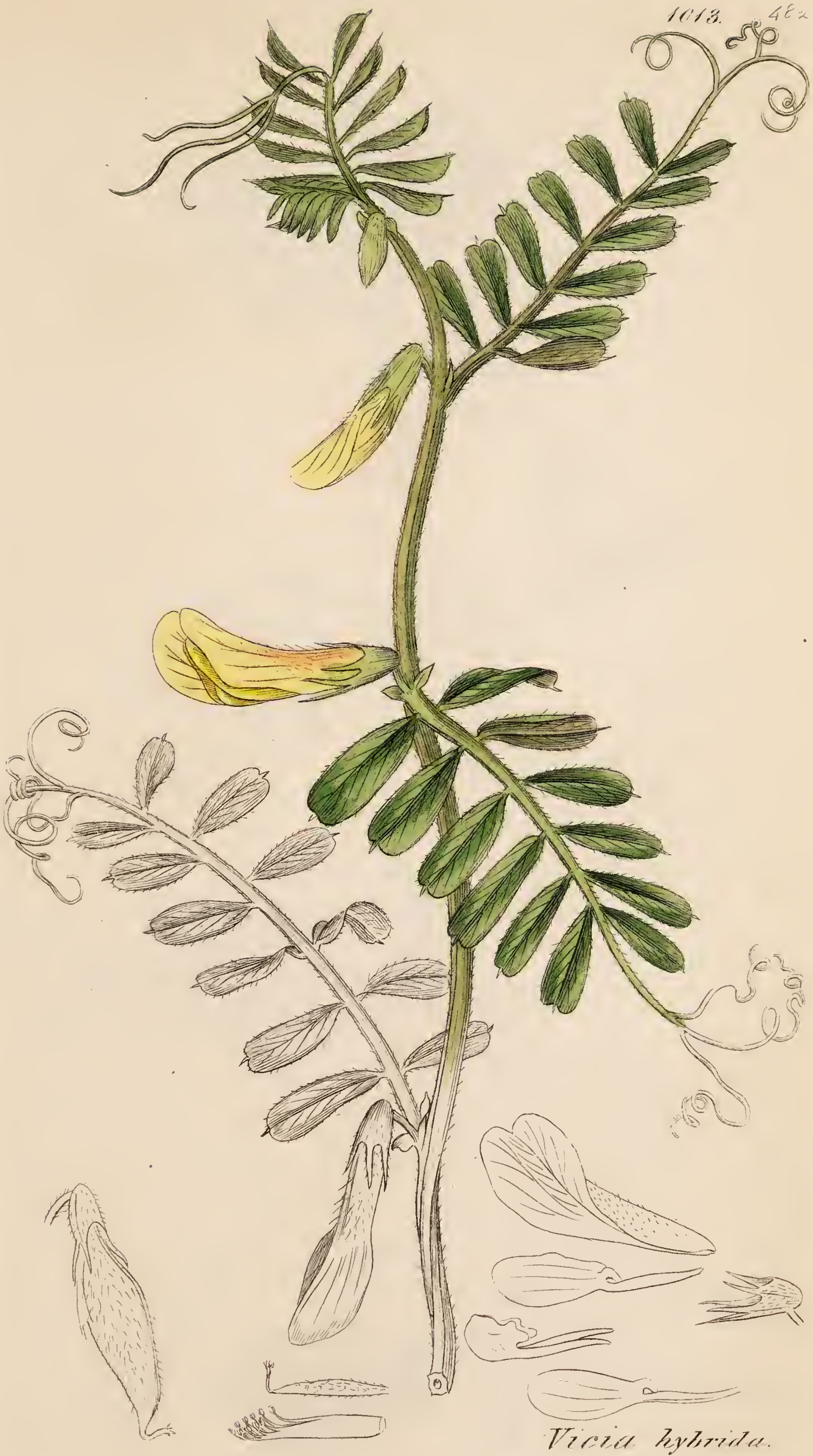
481
1012.



Vicia lutea.

July 1 1798 Published by Js. Sowerby

1013. 482

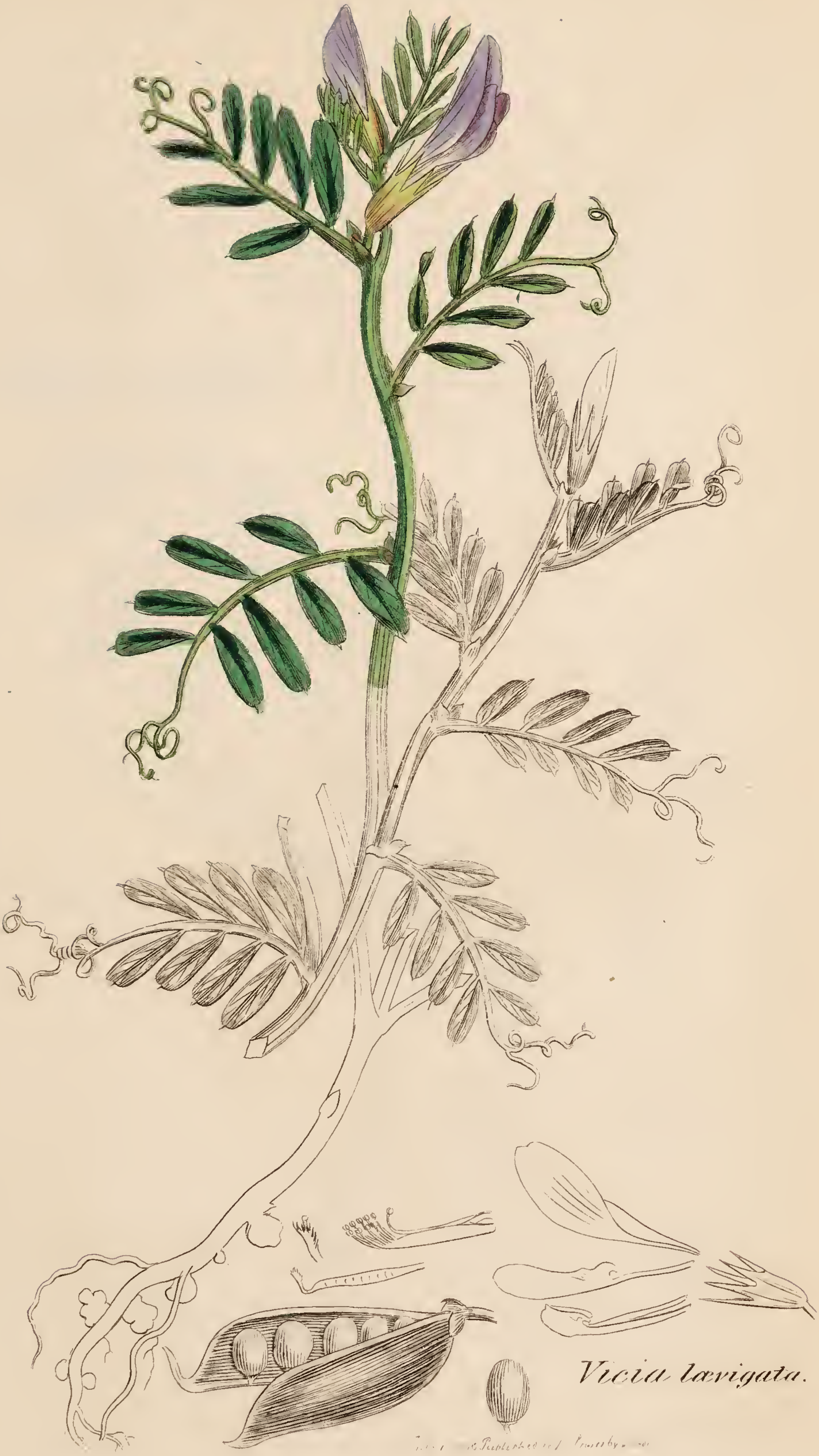


Vicia hybrida.

July 1. 1798 Published by J. Sowerby London.

483.

1014.

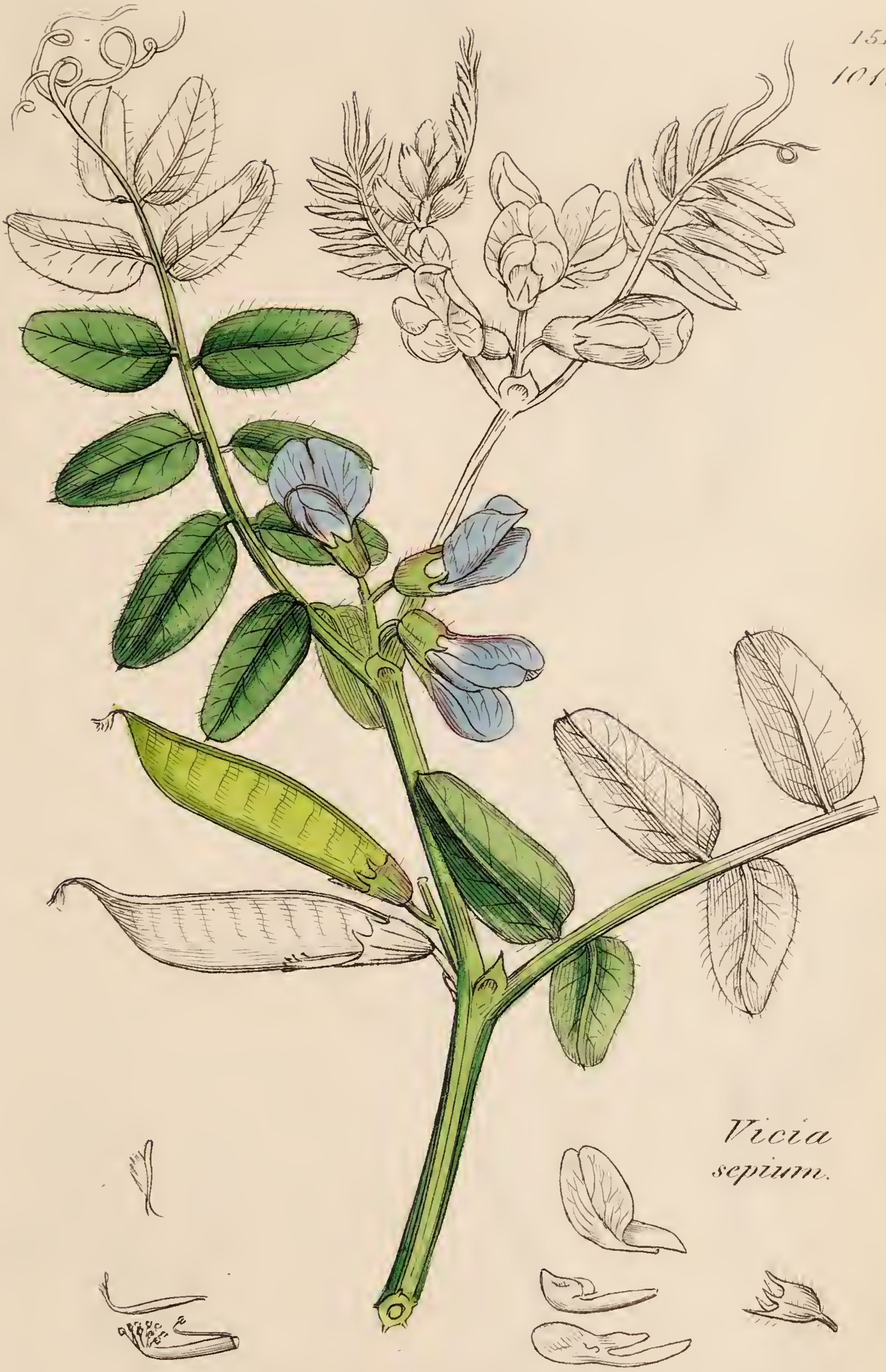


Vicia lævigata.

[illegible] Published by [illegible] Sowerby [illegible]

1515

1015.

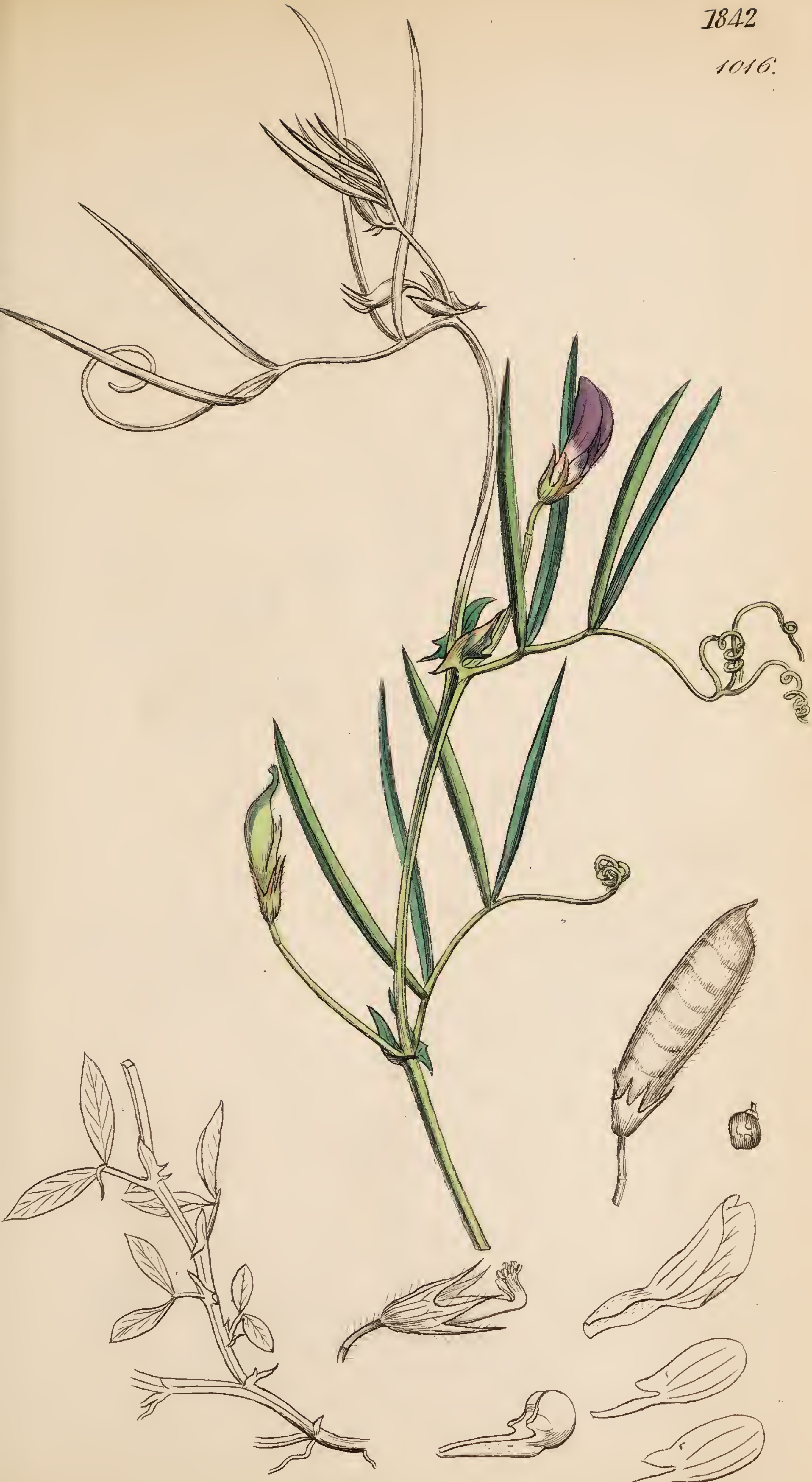


Vicia sepium.

Octr. 1. 1805. Publiſhed by Jas. Sowerby, London.

1842

1016.

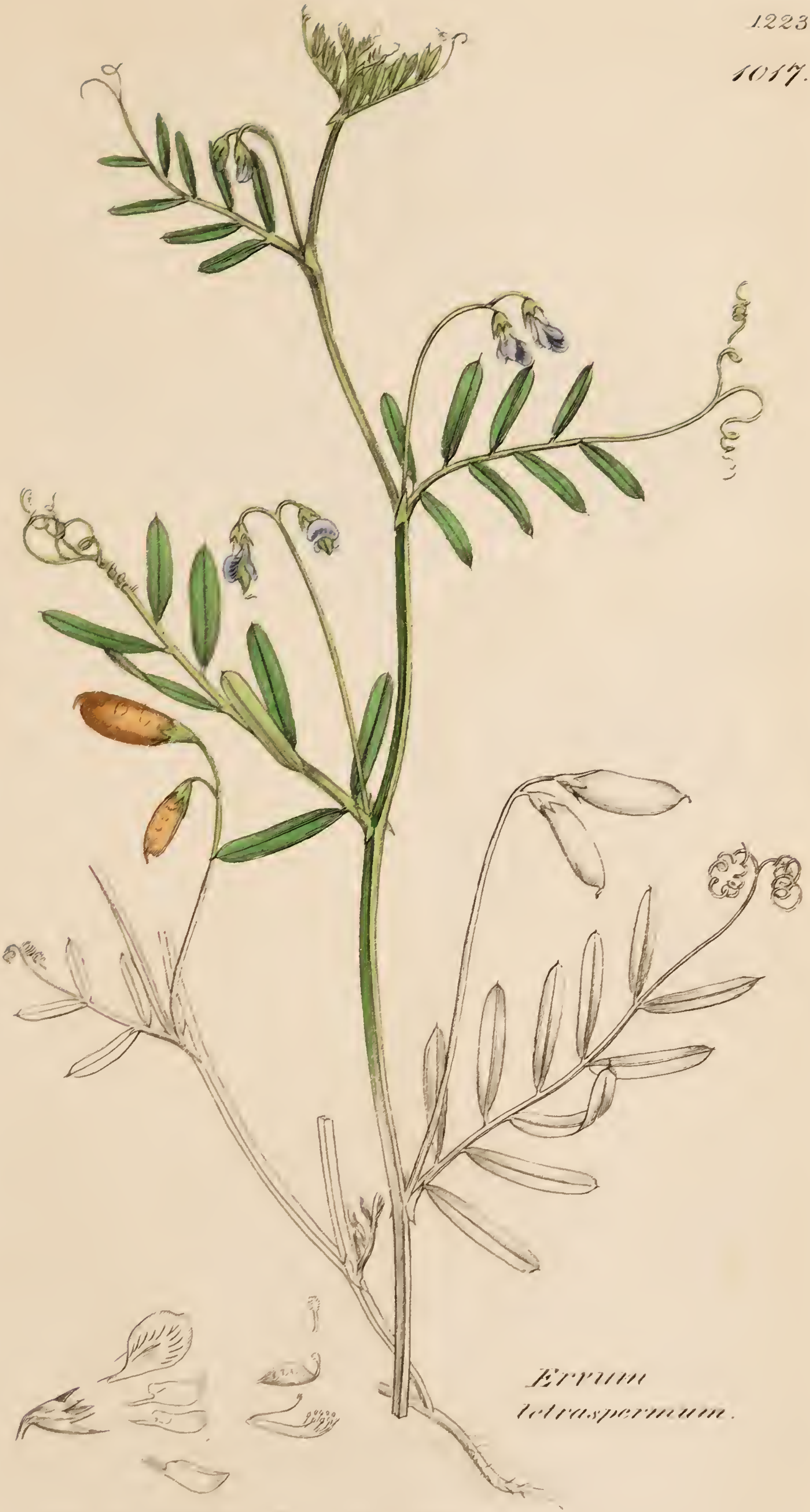


Vicia Bithynica.

Jan. 1 1808. Publish'd by Jas. Sowerby London.

1223

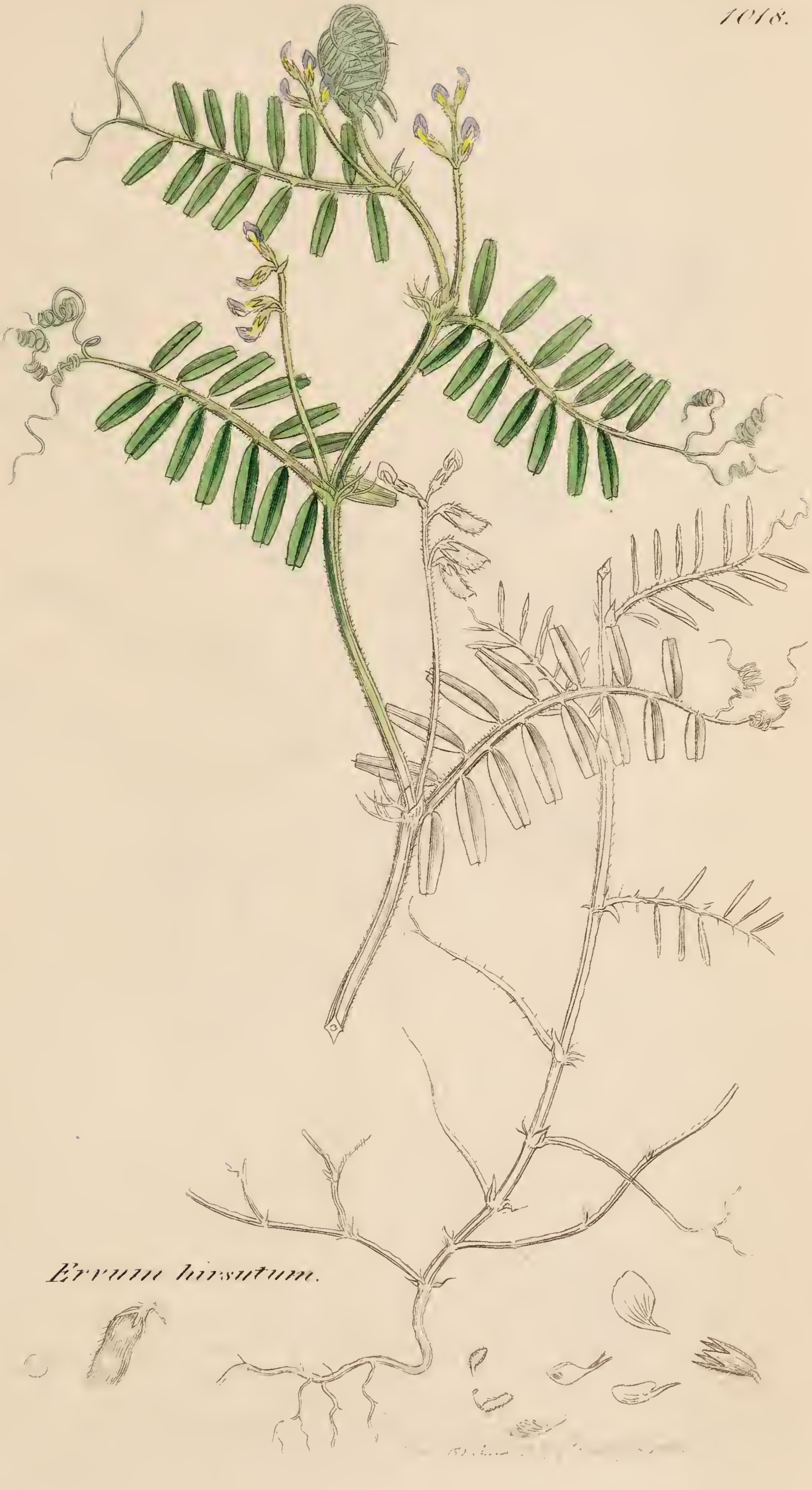
1017.



Ervum tetraspermum.

Oct^{r} 1 1803 Publiſhed by Ja^{s} Sowerby, London

970
1018.

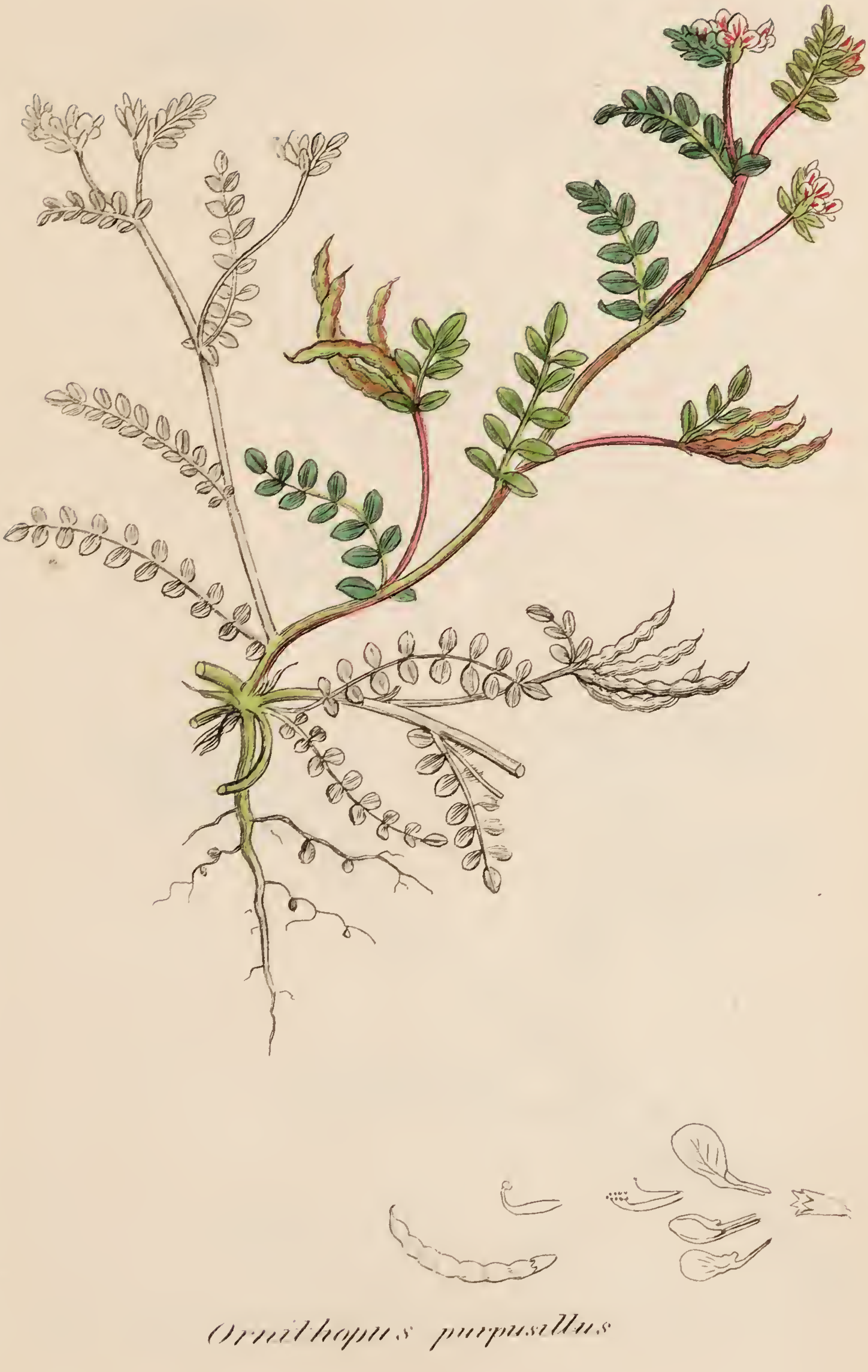


Ervum hirsutum.

[illegible]

369

1019.

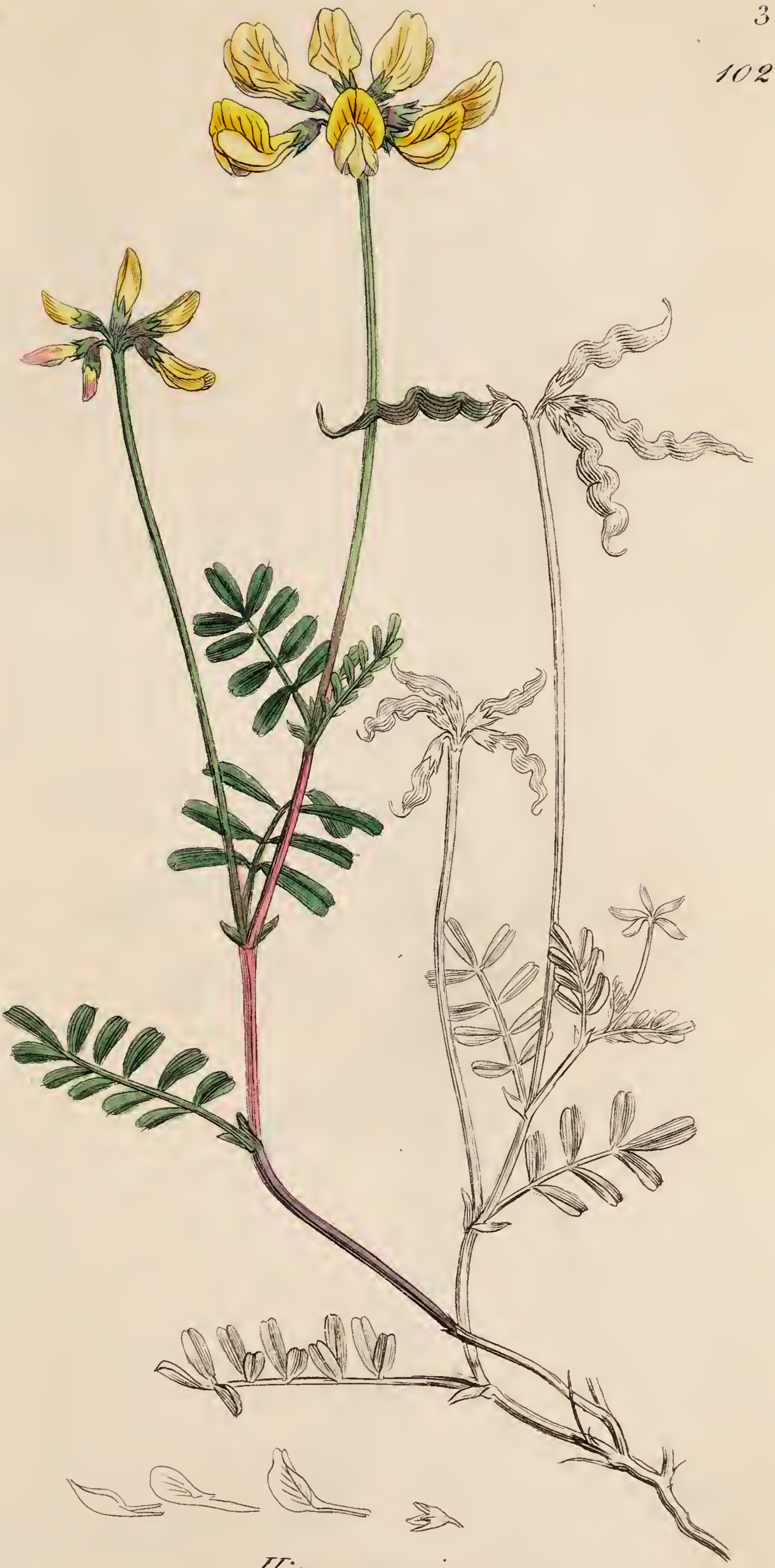


Ornithopus perpusillus

Ju 1, 1797 Published by Js Sowerby London

31

1020.

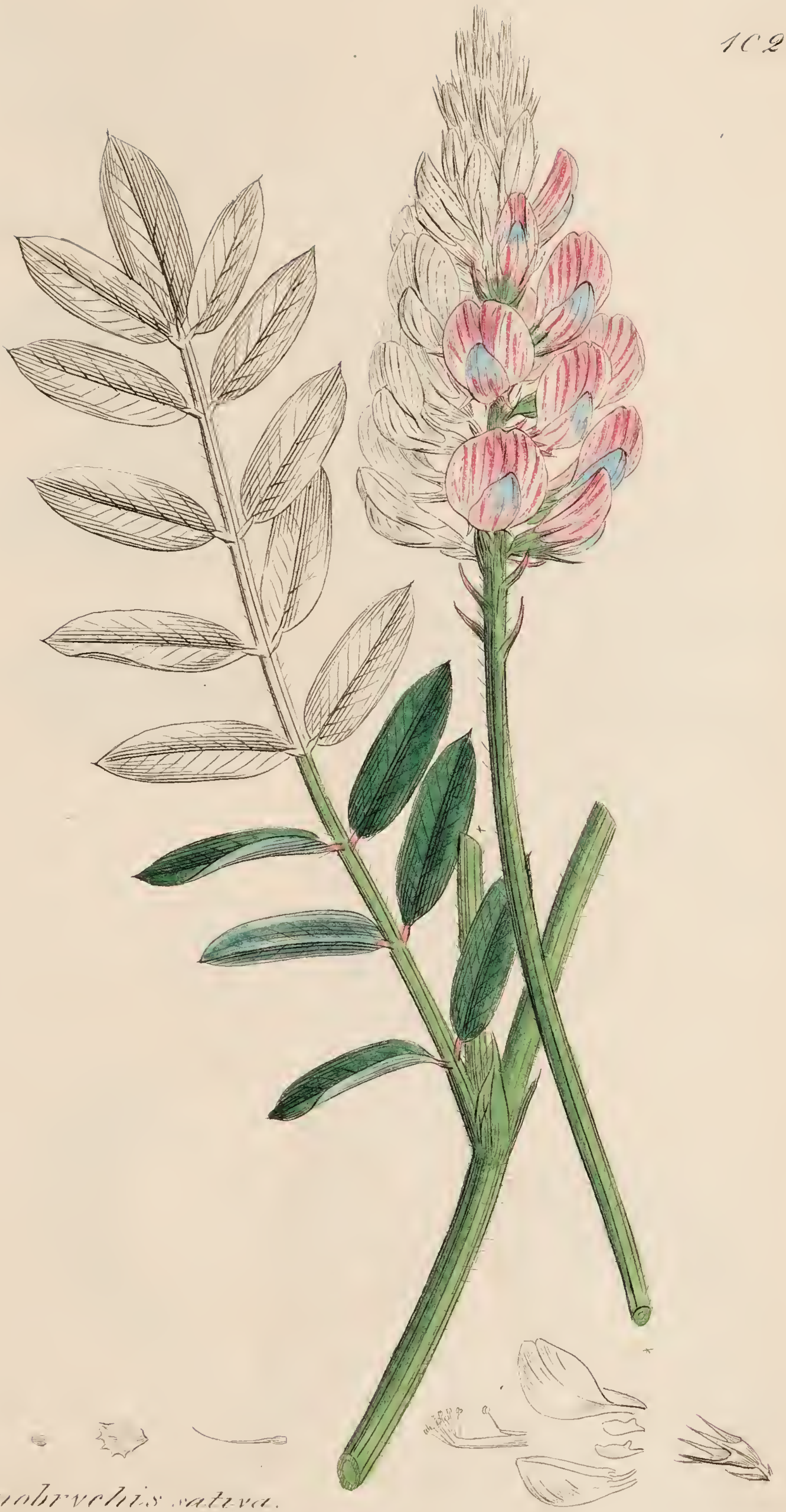


J. Sowerby delt. Octr. 1 1791

Hippocrepis comosa.

90.

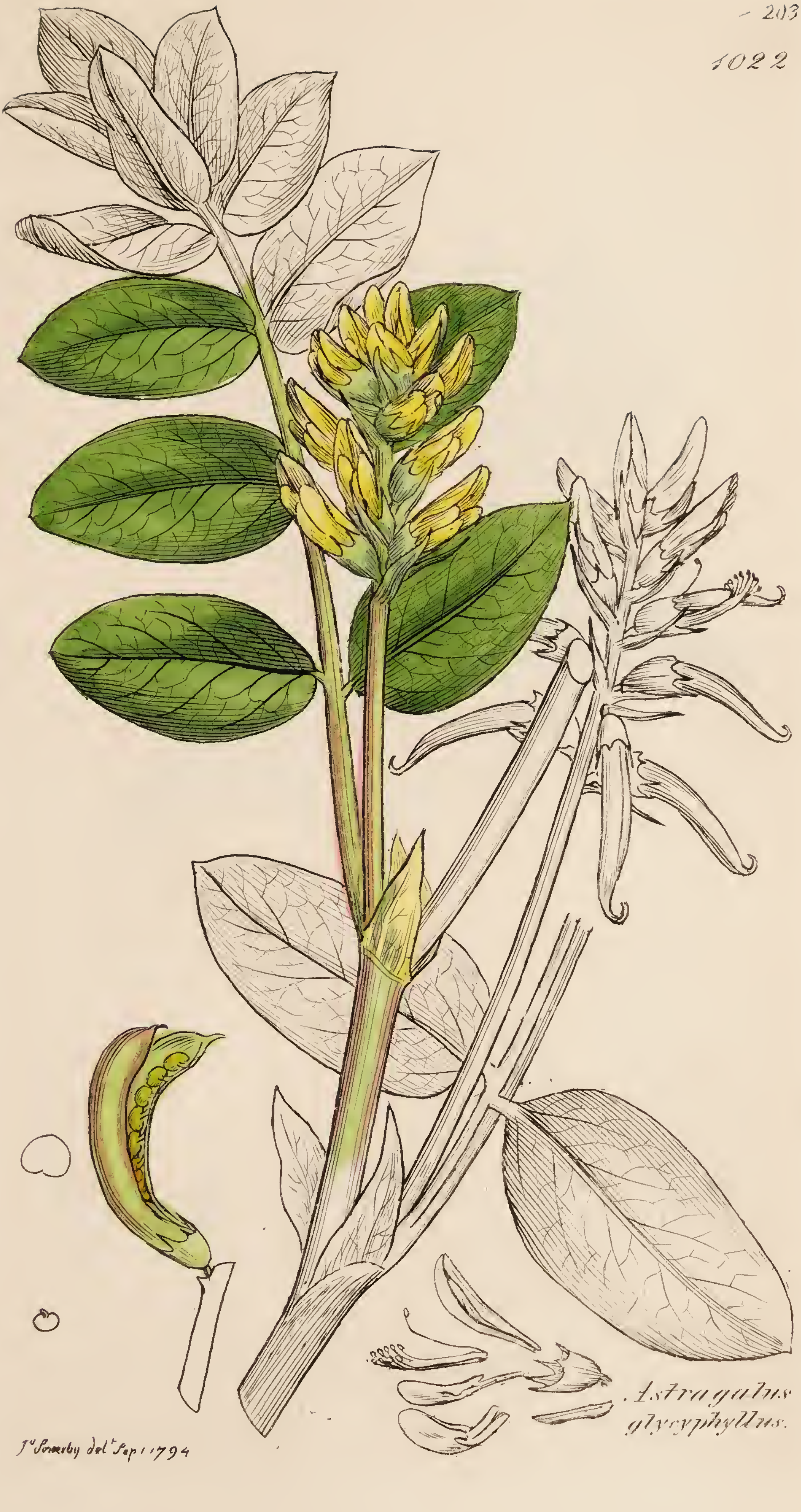
1021.



Onobrychis sativa.

- 203.

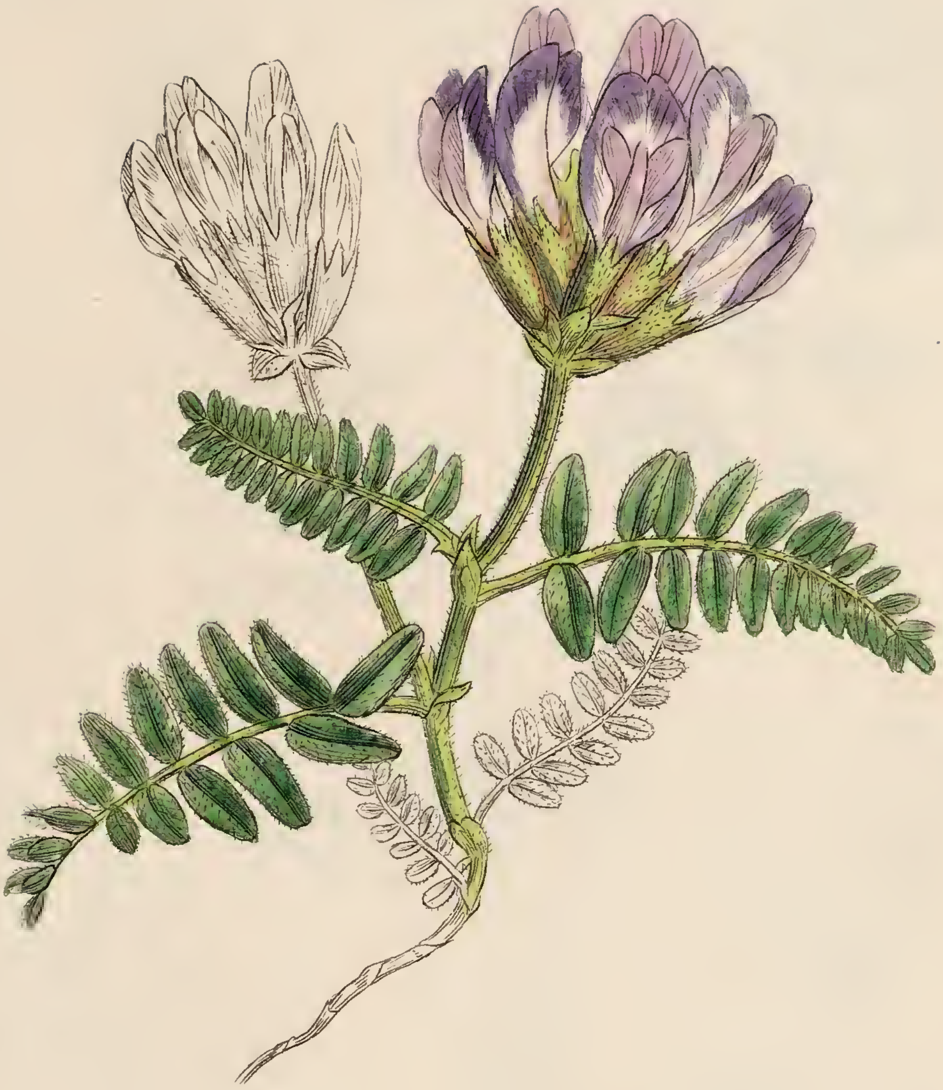
1022

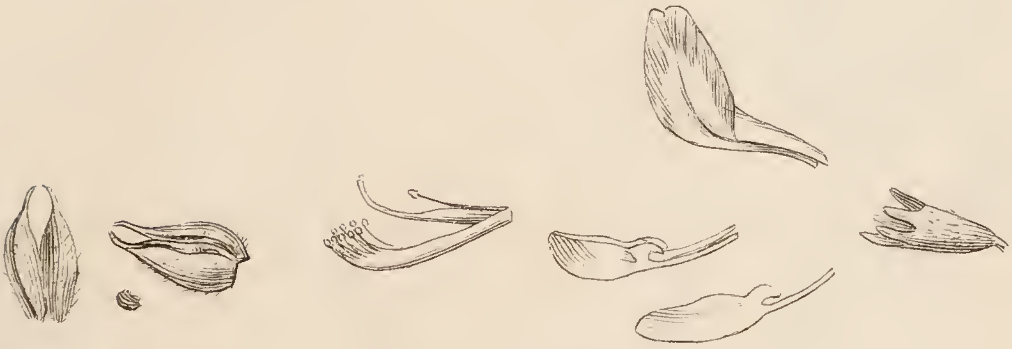


Astragalus glycyphyllus.

Js Sowerby delt Sep 1 1794

1023.



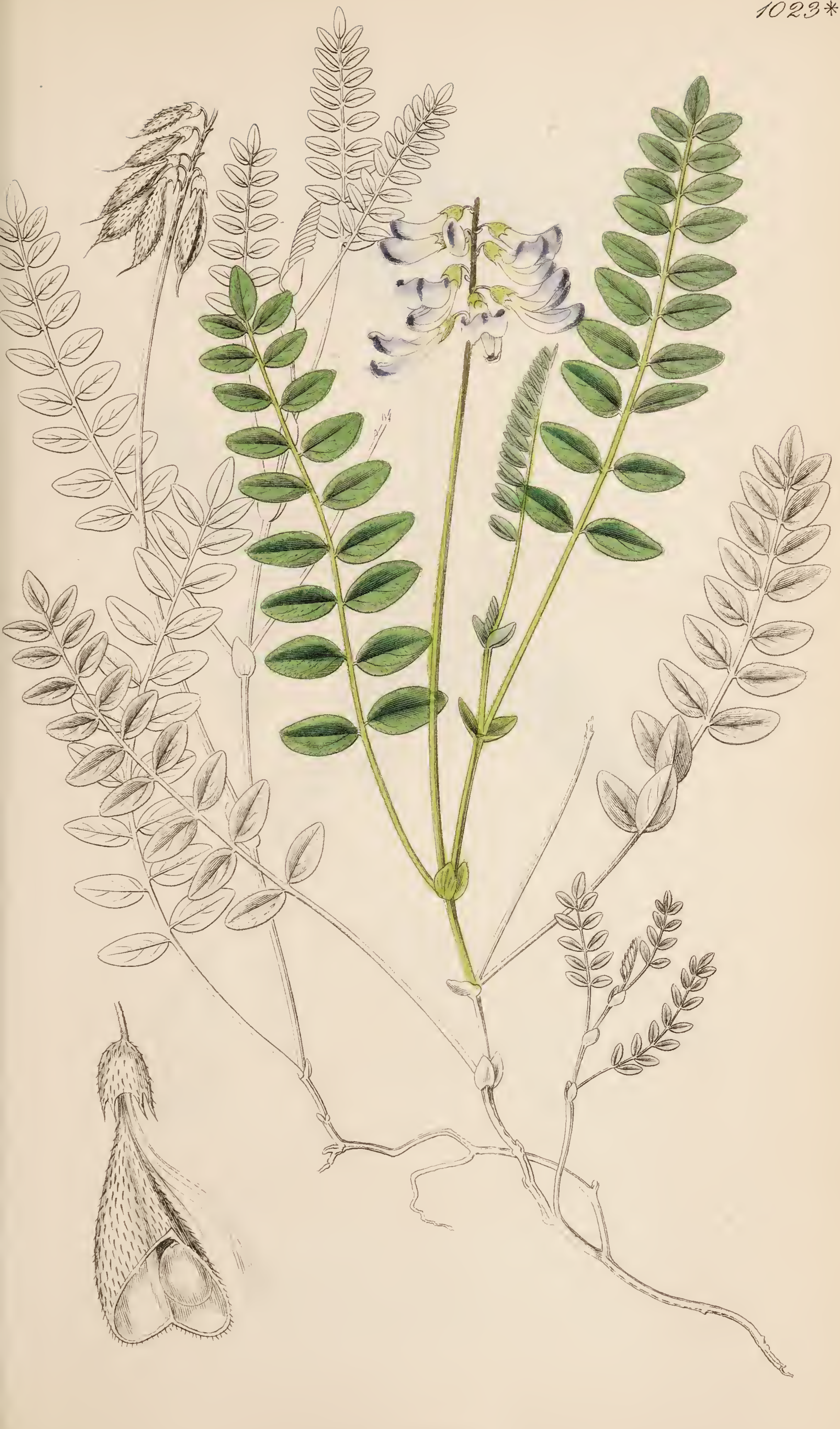


Astragalus hypoglottis.

Sep 1 7 5 P [illegible]

2717.

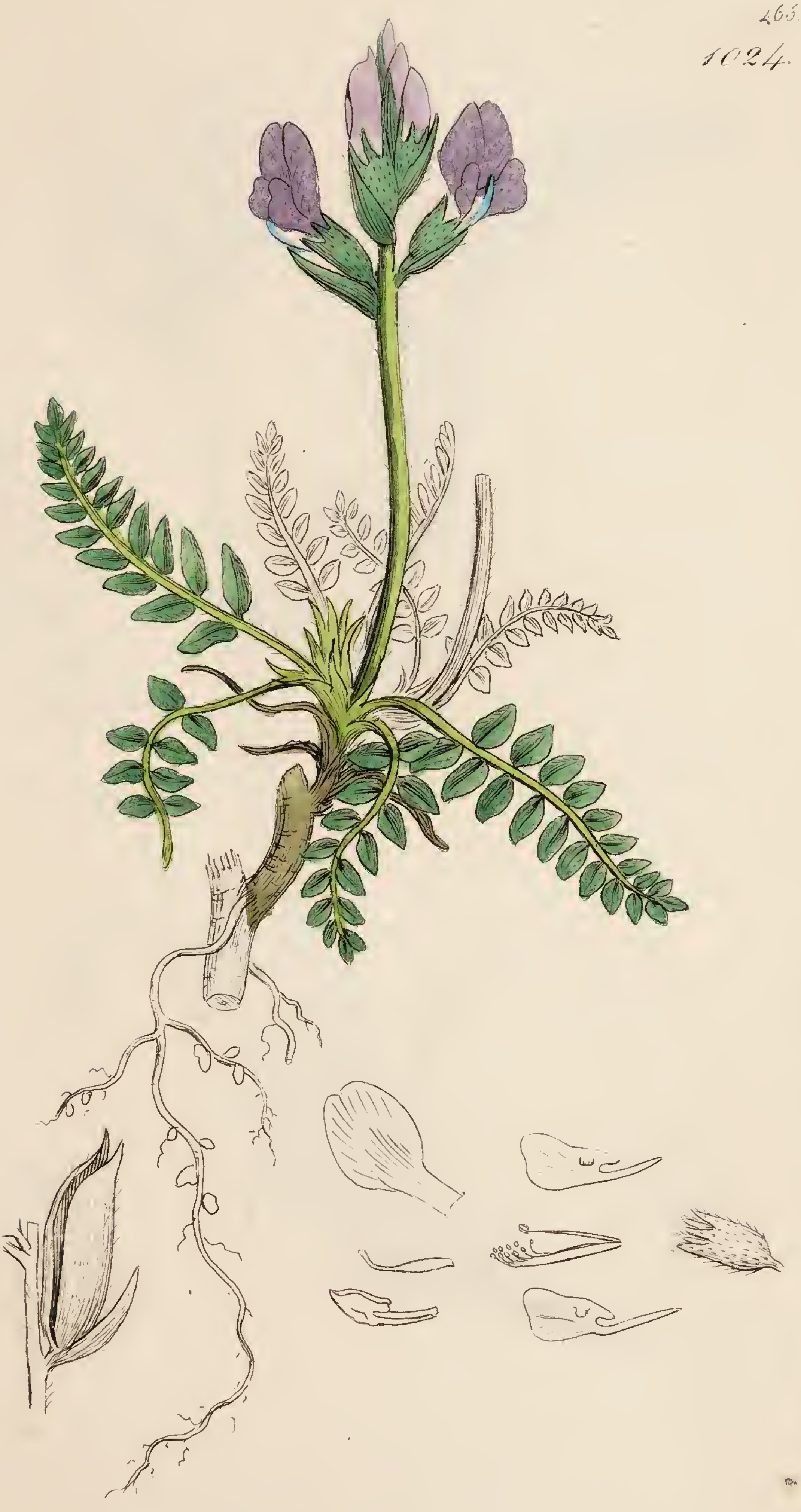
1023*



1! November 1st 1831

465.

1024.

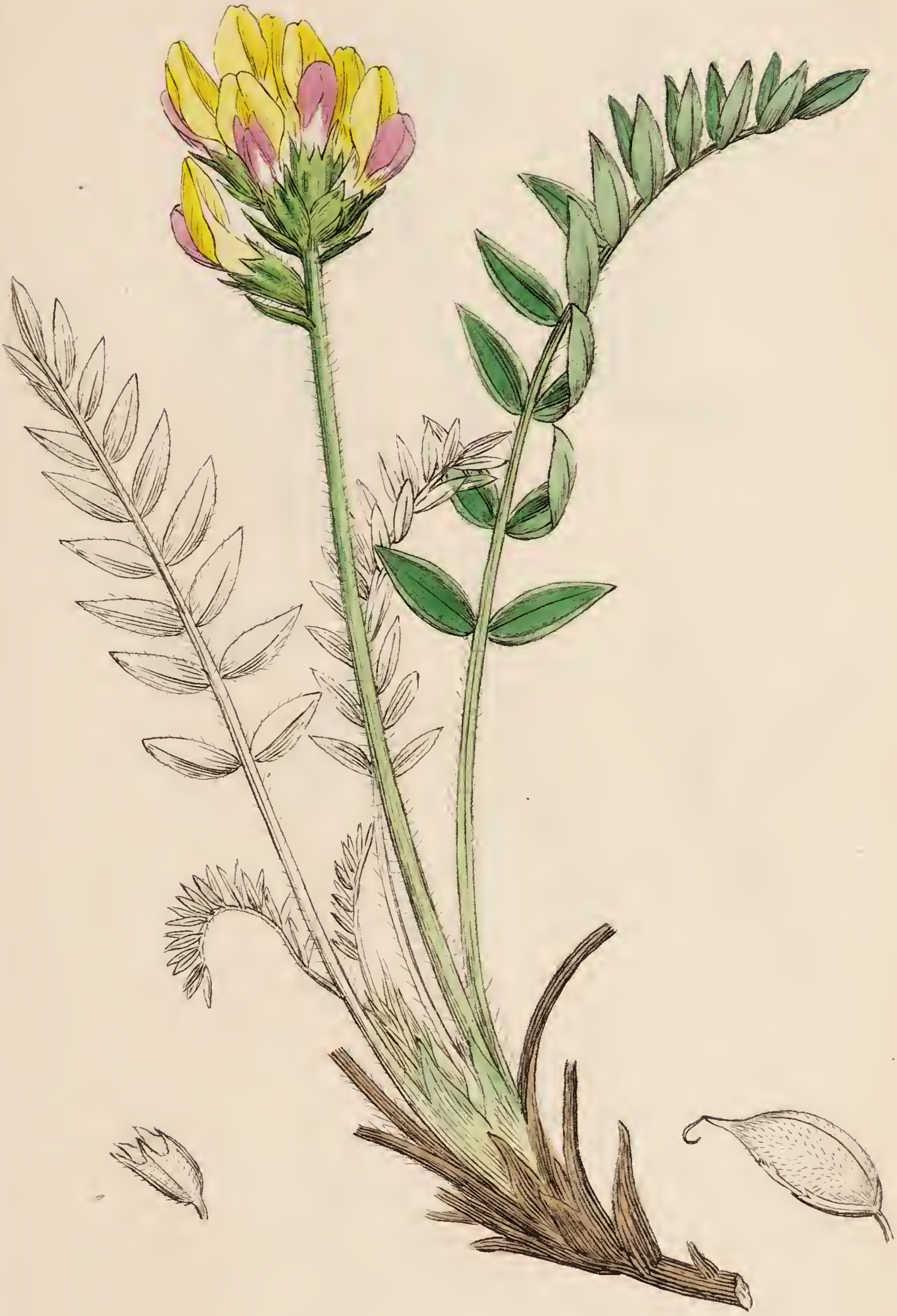


Oxytropis Uralensis.

May 1. 1798 Published by Jas. Sowerby London.

2522

1025.

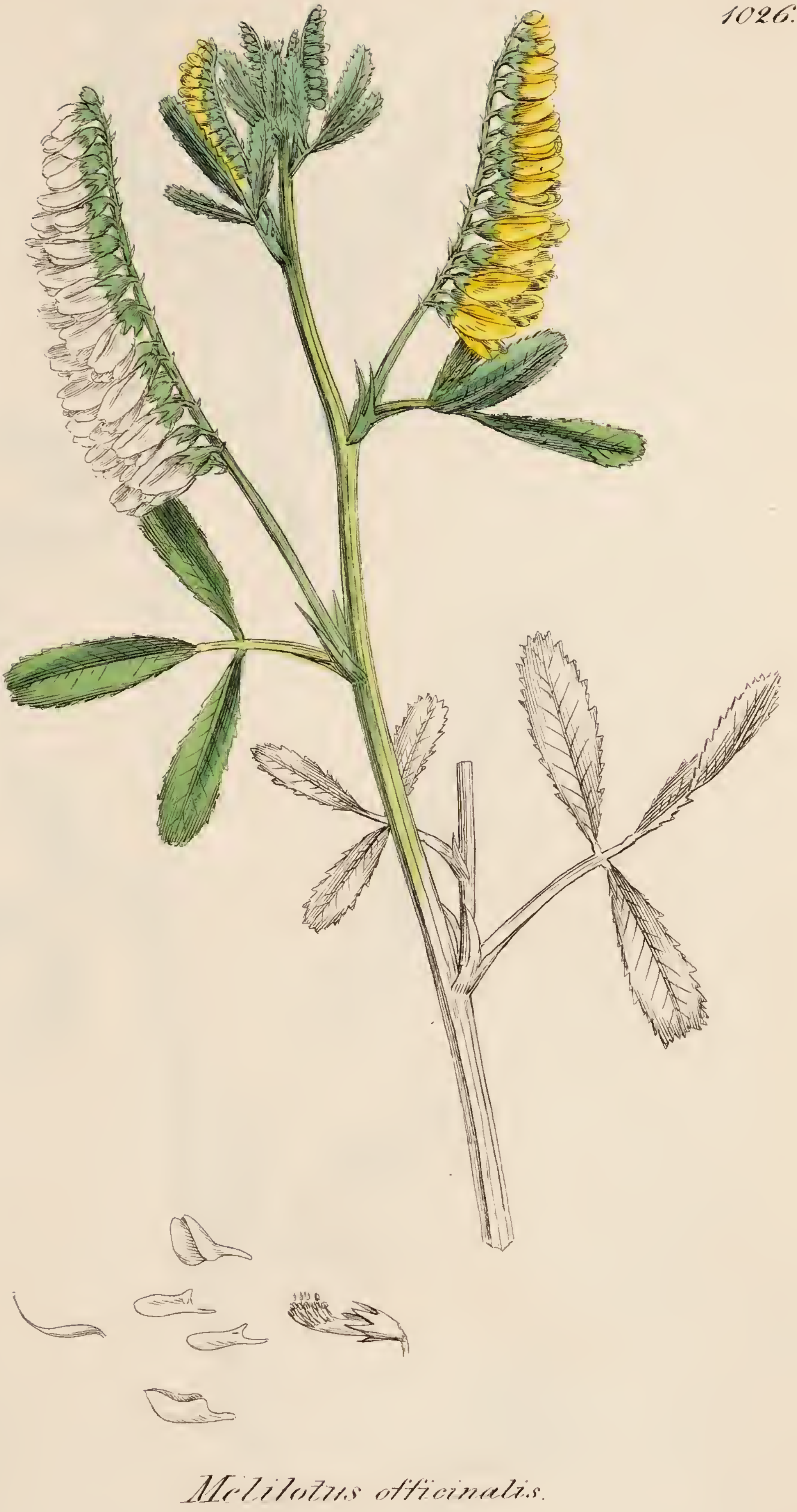


Oxytropis campestris.

Mar. 1 1813 published by Jas. Sowerby London.

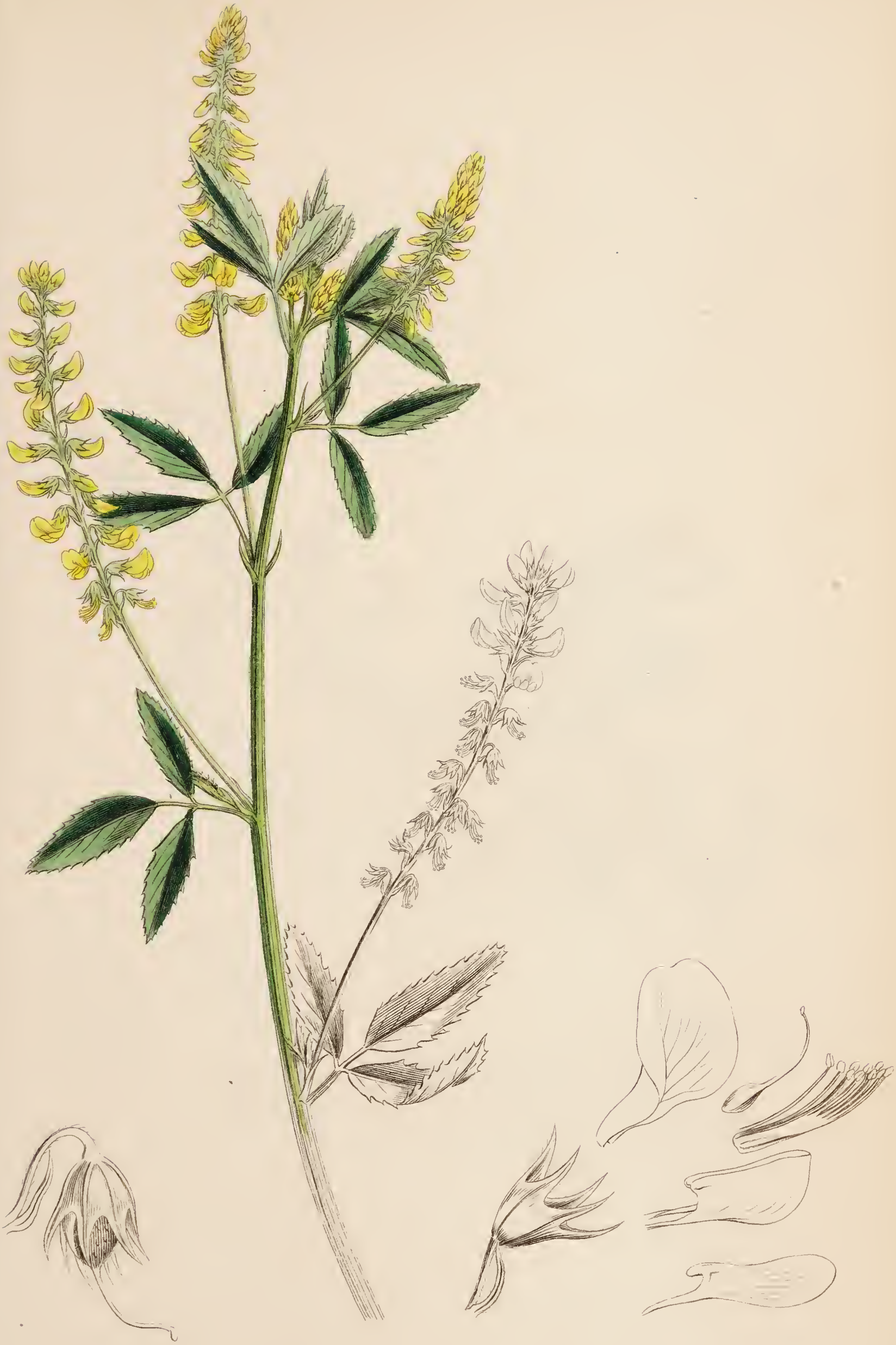
1340

1026.



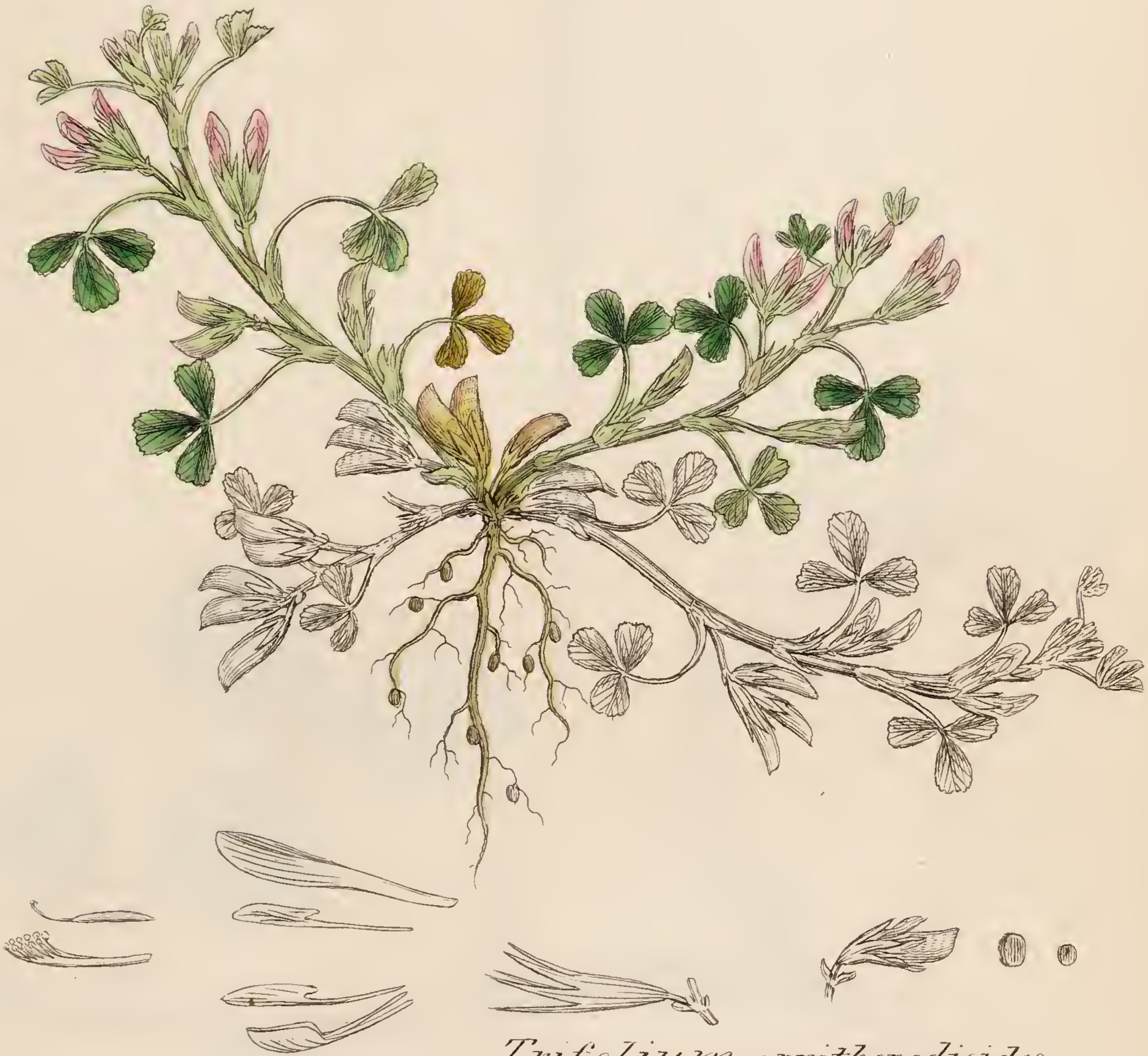
Melilotus officinalis.

Augt. 1 1804. Published by Jas. Sowerby. London.



April 1st 1837.

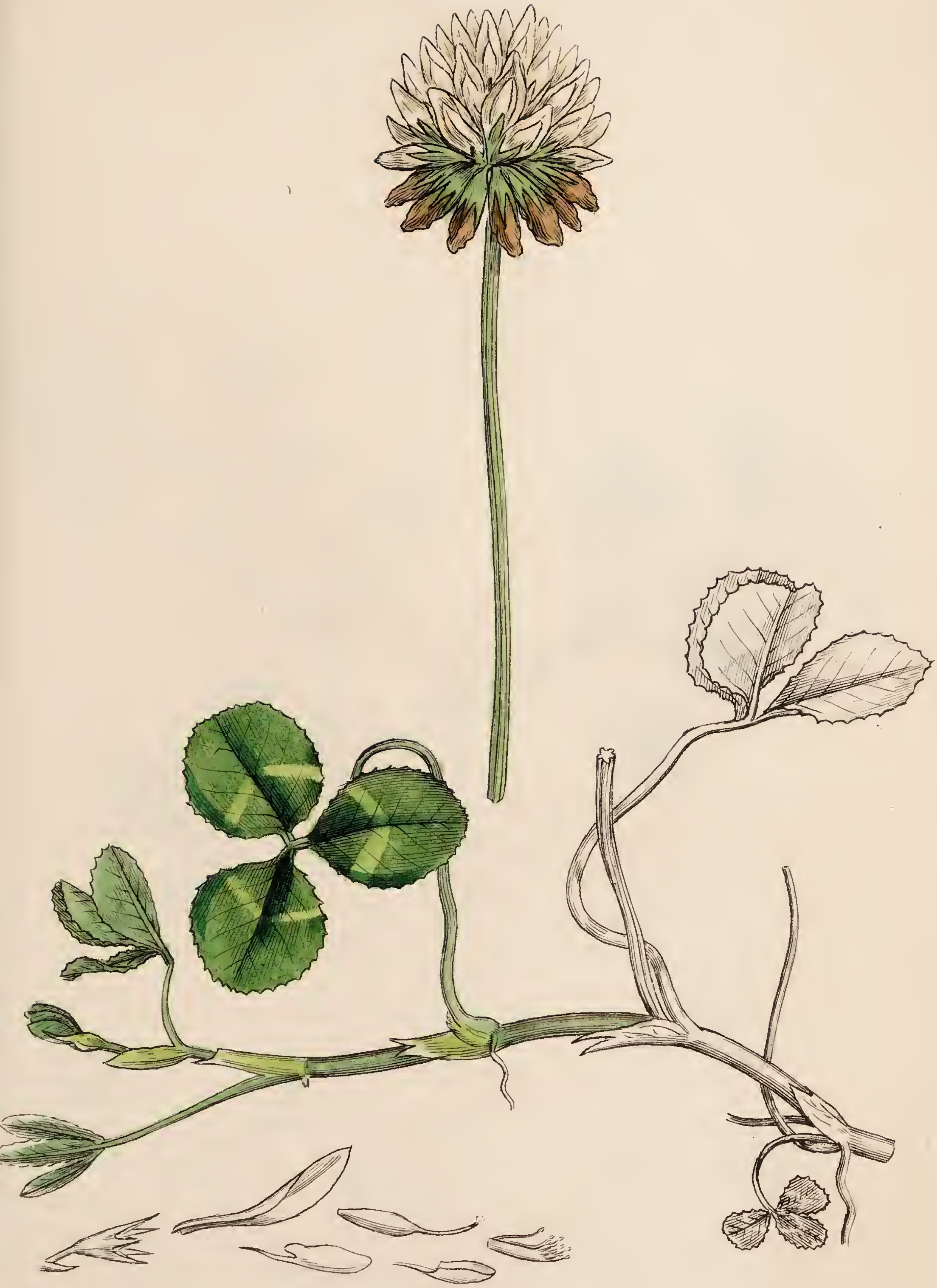
1047.
1027.



Trifolium ornithopodioides.

Ju[illegible] 1802 Pub. by J. Sowerby London.

1769
1028.

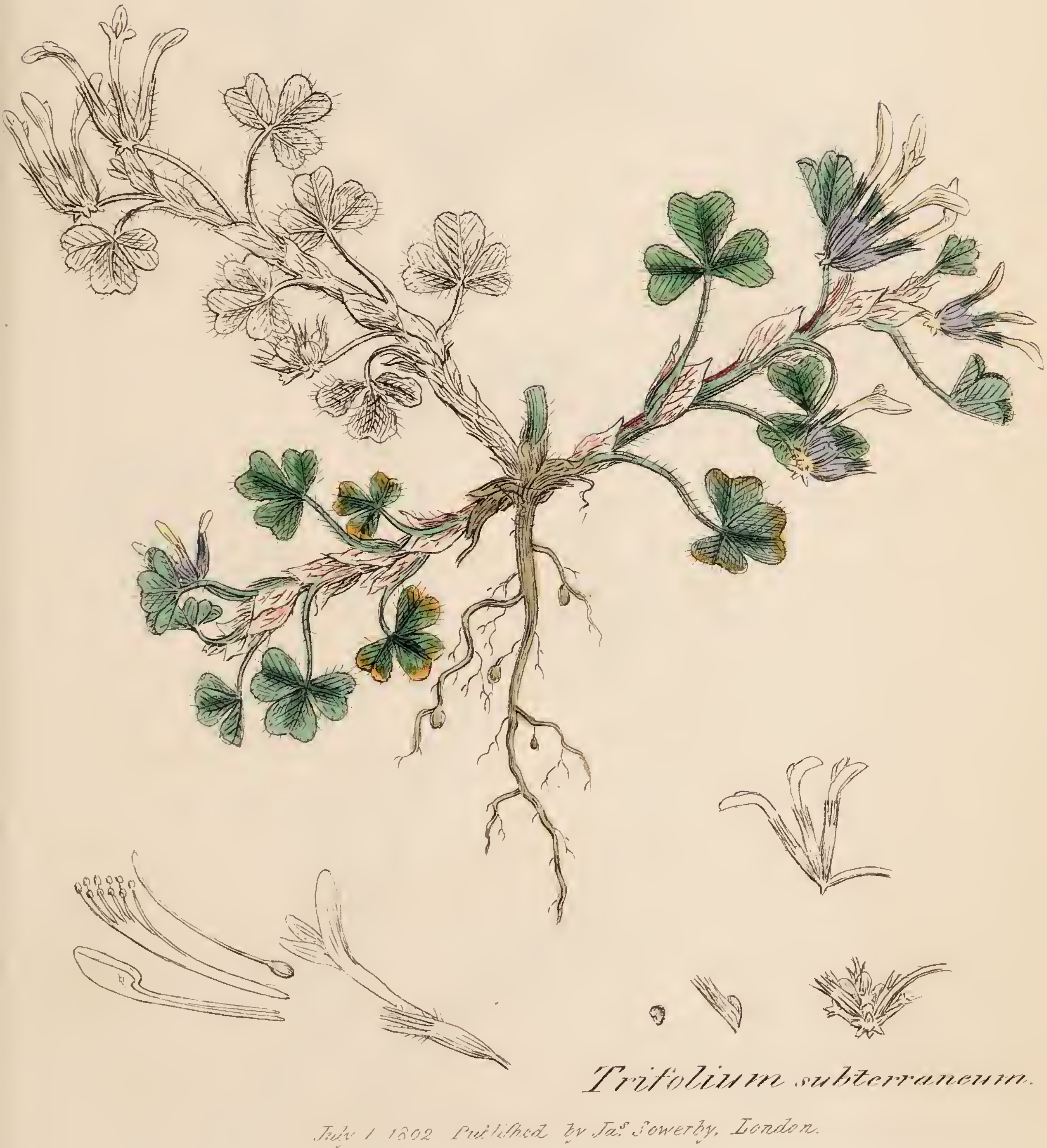


Trifolium repens.

July 1 1807 published by Jas Sowerby London.

1048

1029.

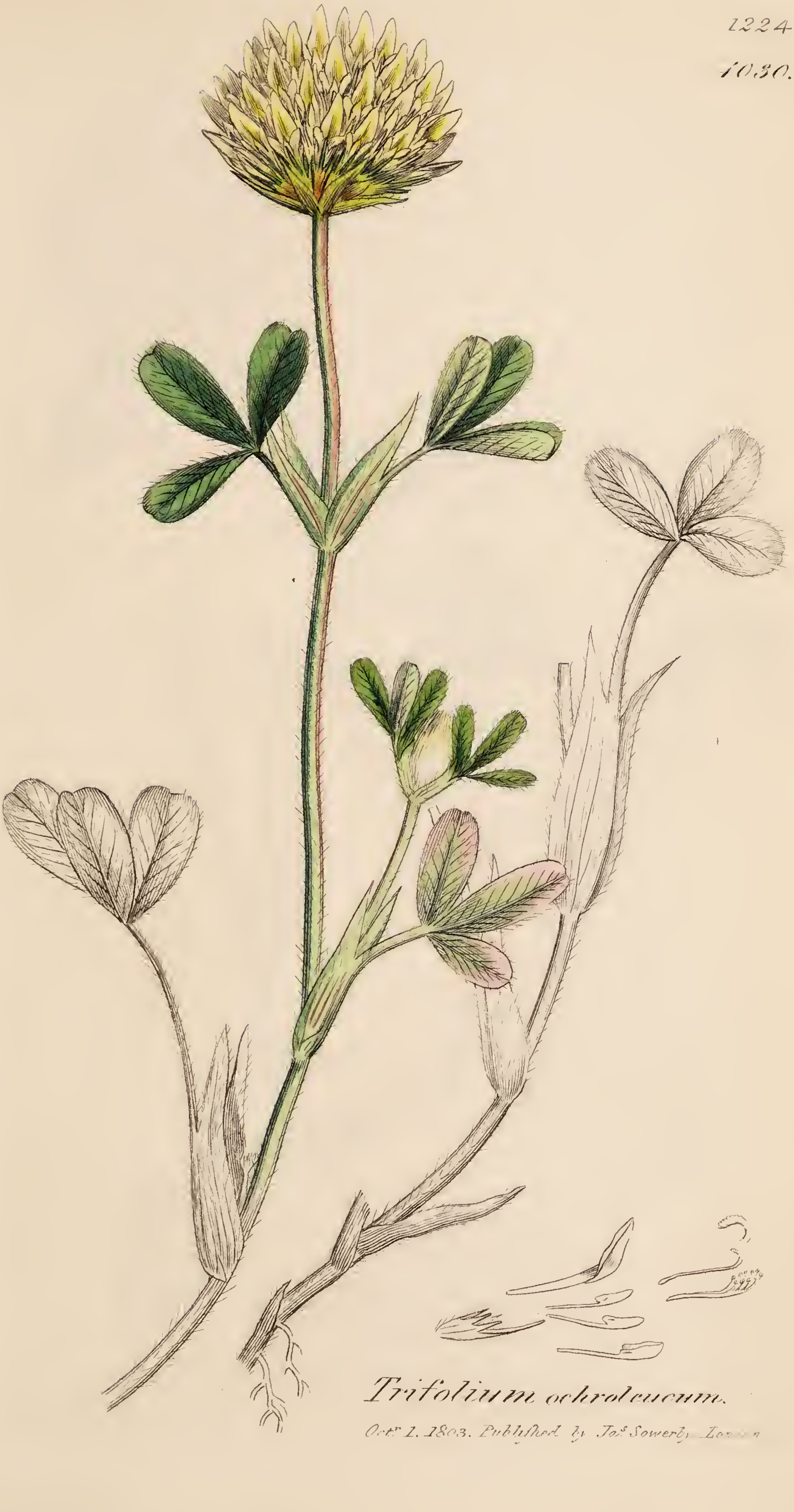


Trifolium subterraneum.

July 1 1802 Publiſhed by Jas. Sowerby, London.

1224

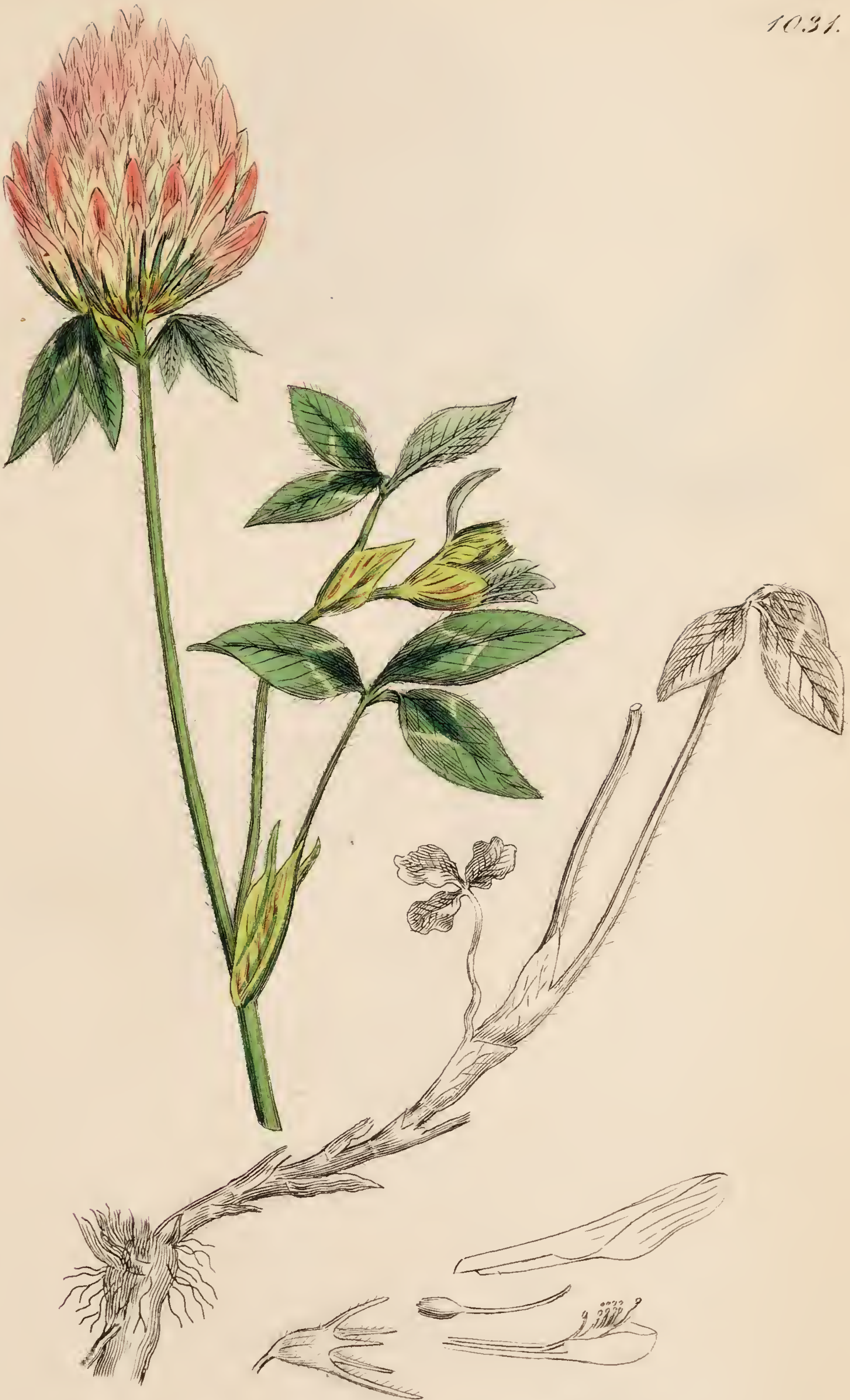
1030.



Trifolium ochroleucum.

Octr. 1. 1803. Publiſhed by Jas. Sowerby London

1770.
1031.

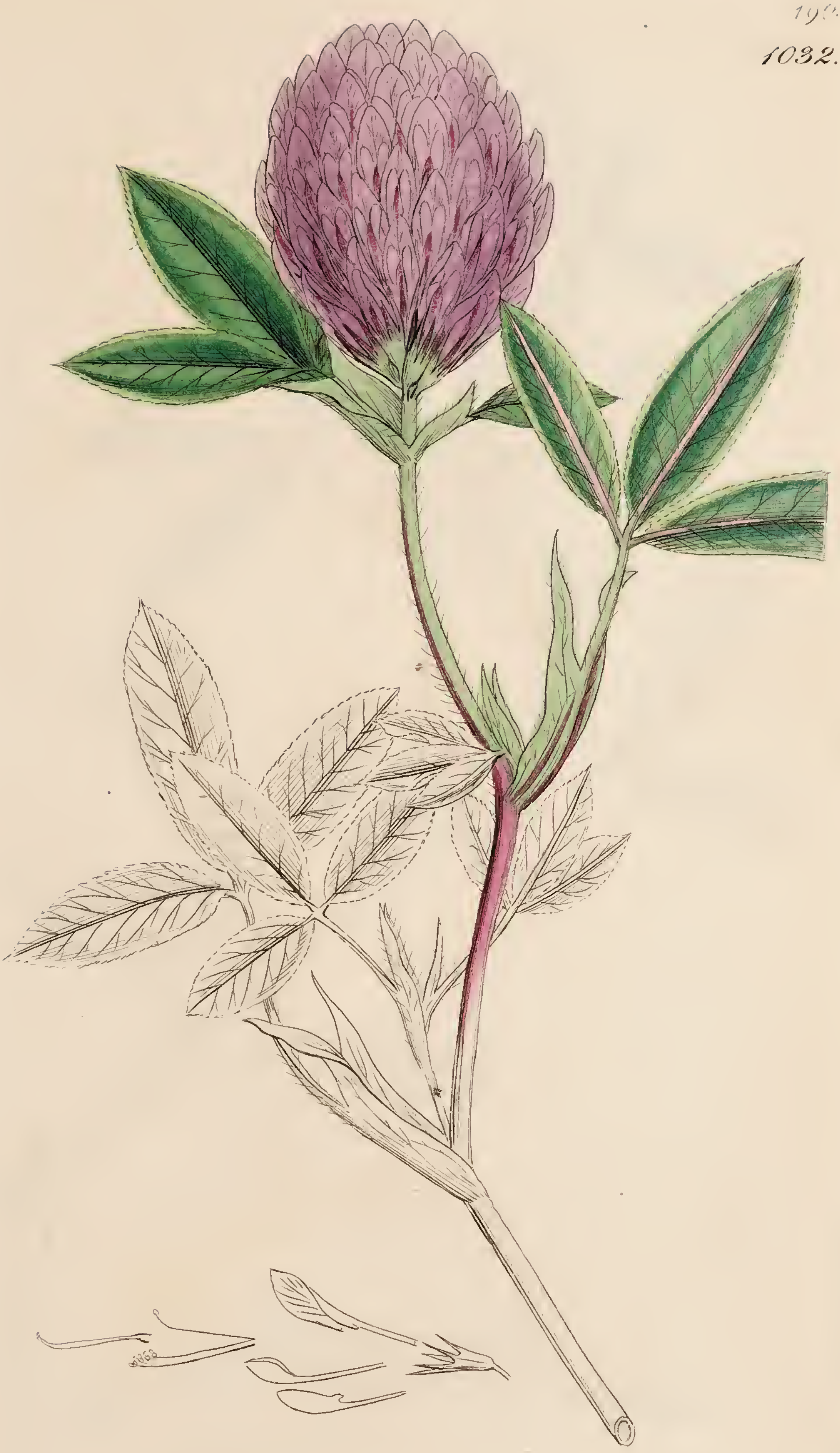


Trifolium pratense.

July 1 1807 published by Jas. Sowerby London

190.

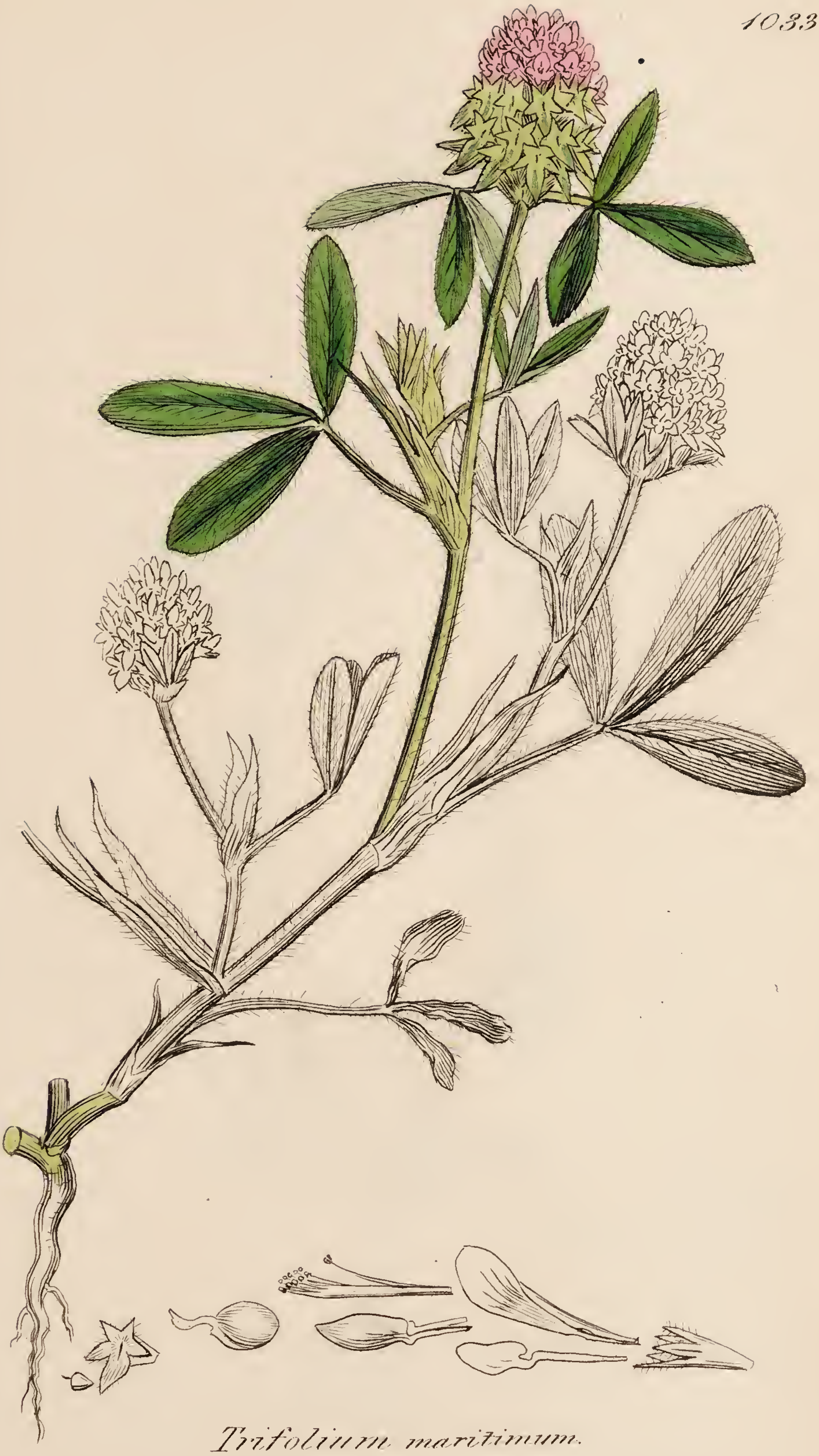
1032.



Trifolium medium.

[illegible] July 1st 1794.

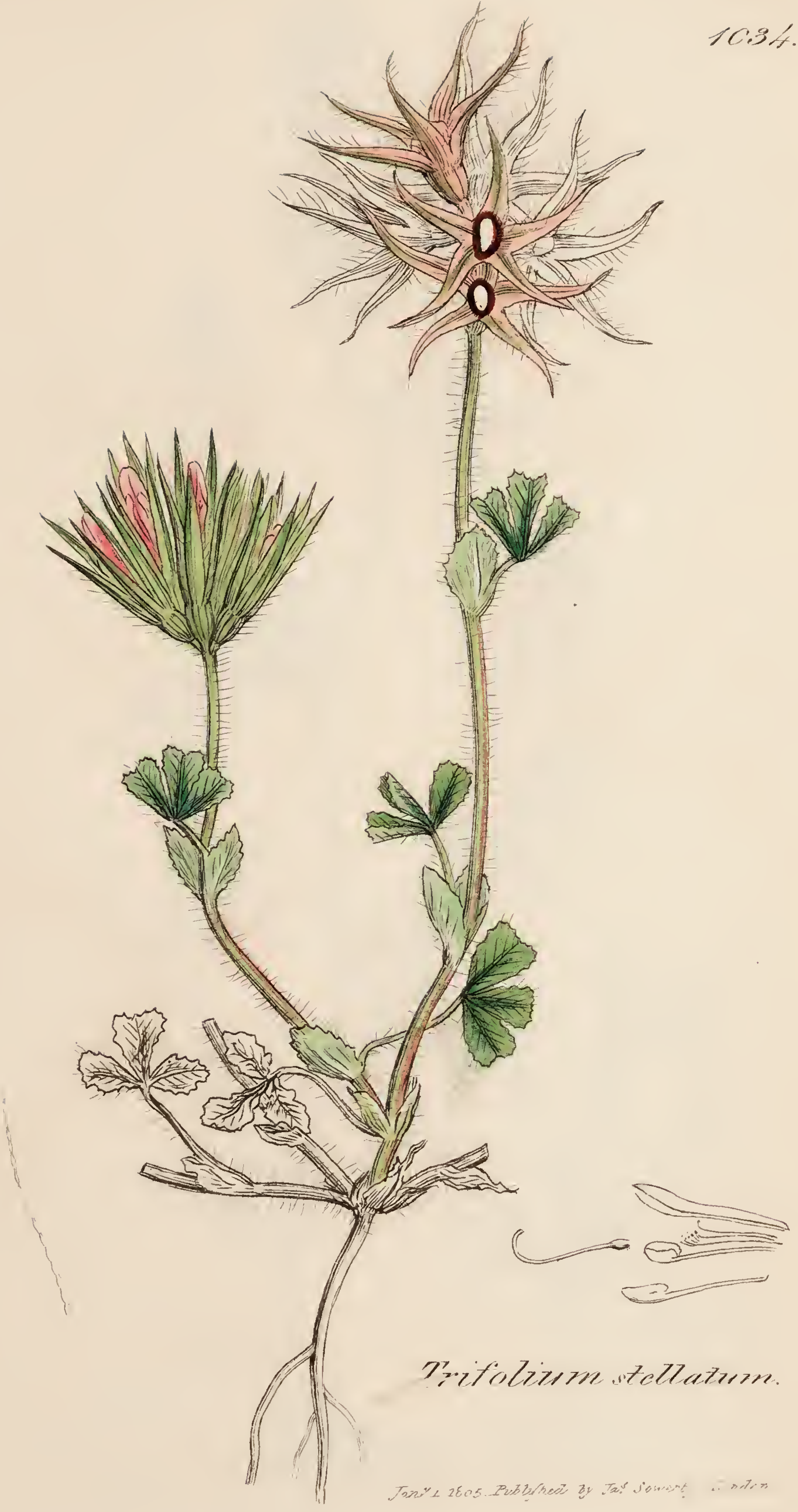
1033.



Trifolium maritimum.

1545

1034.

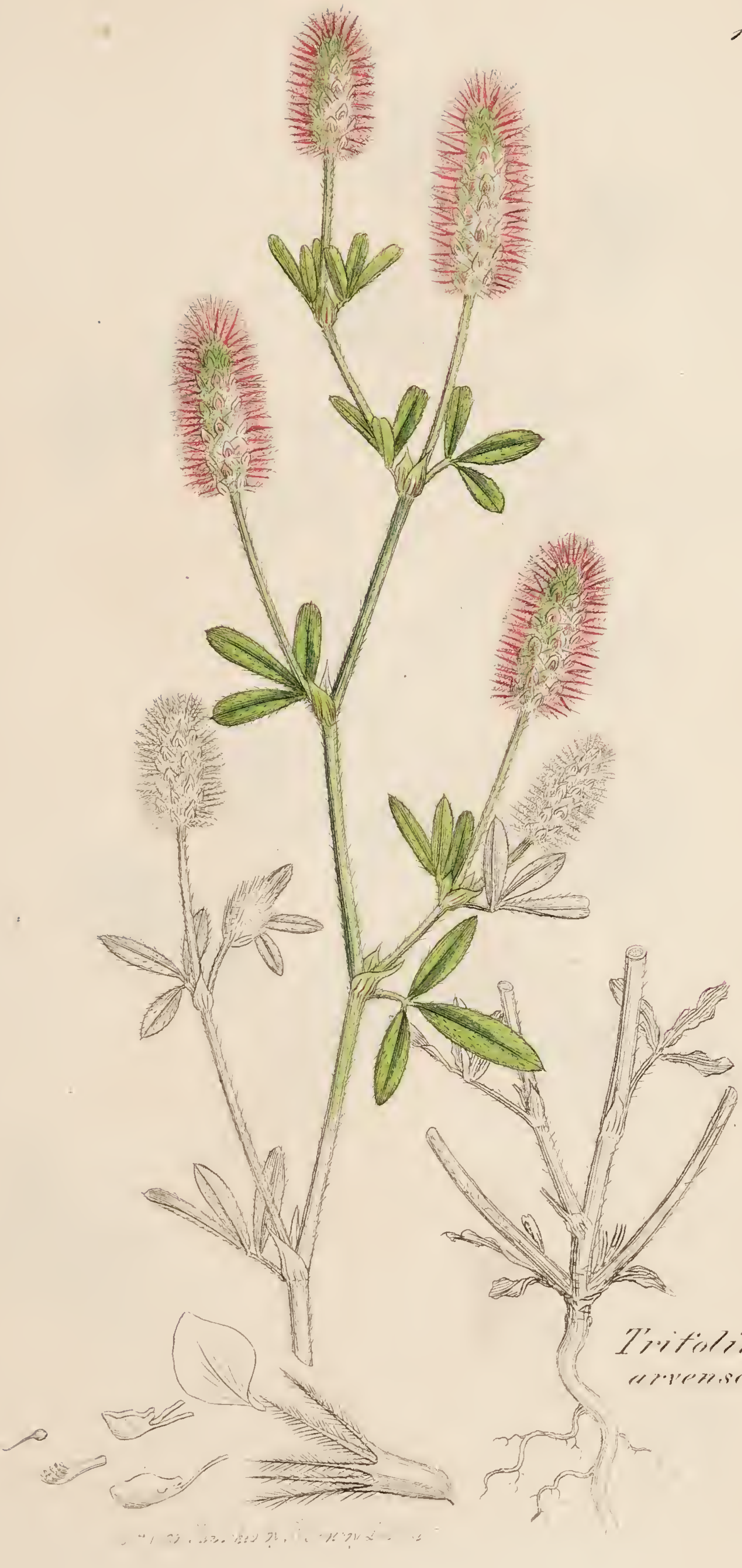


Trifolium stellatum.

Jany 1 1805. Published by Jas Sowerby London

944.

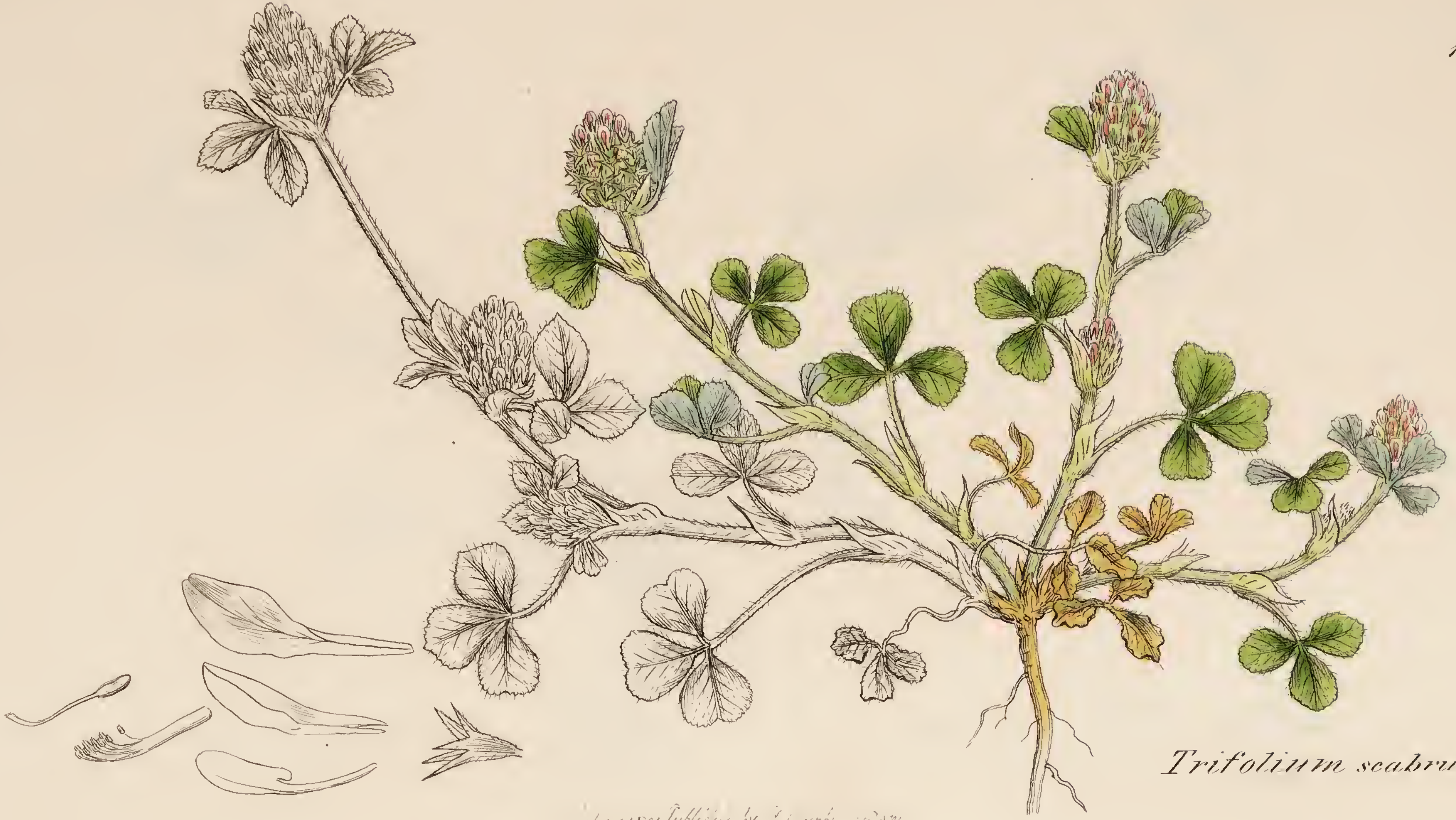
1035.



Trifolium arvense.

[illegible]

903.
1036.

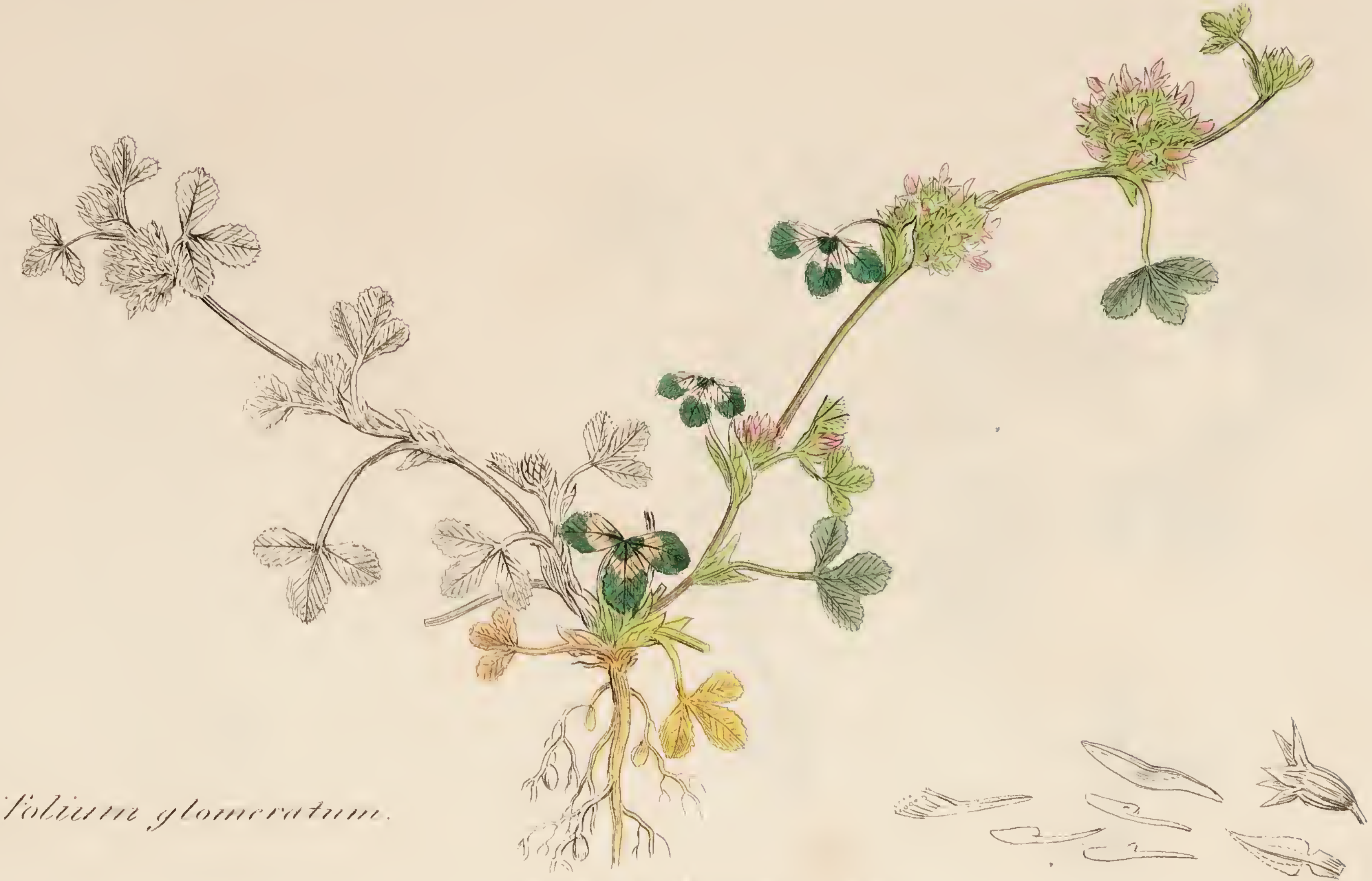


Trifolium scabrum.

Aug. 1. 1801. Published by J. Sowerby London.

1063

1037.

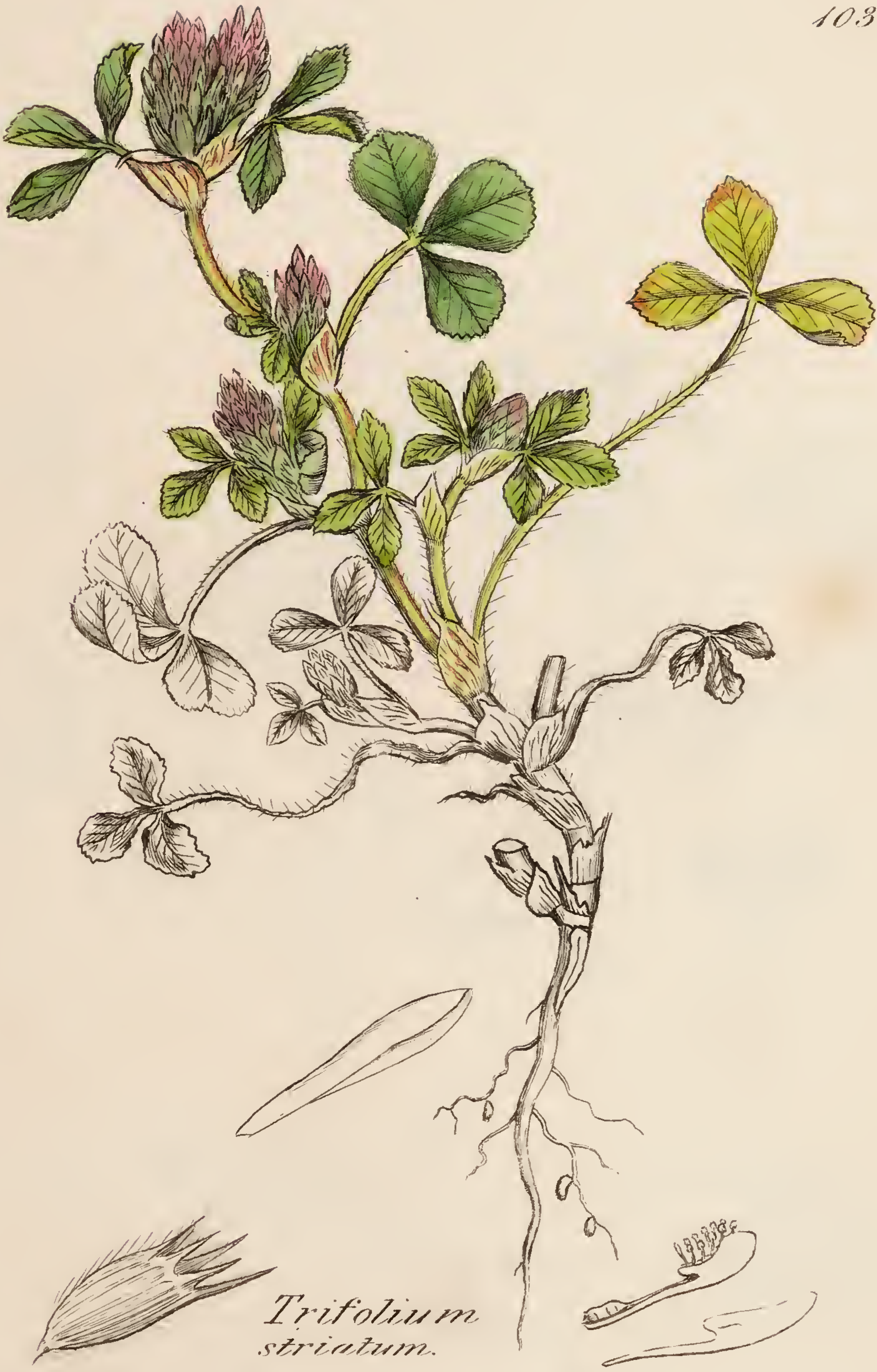


Trifolium glomeratum.

Sept.r 1. 1802 Published by Ja.s Sowerby, London.

1843

1038.

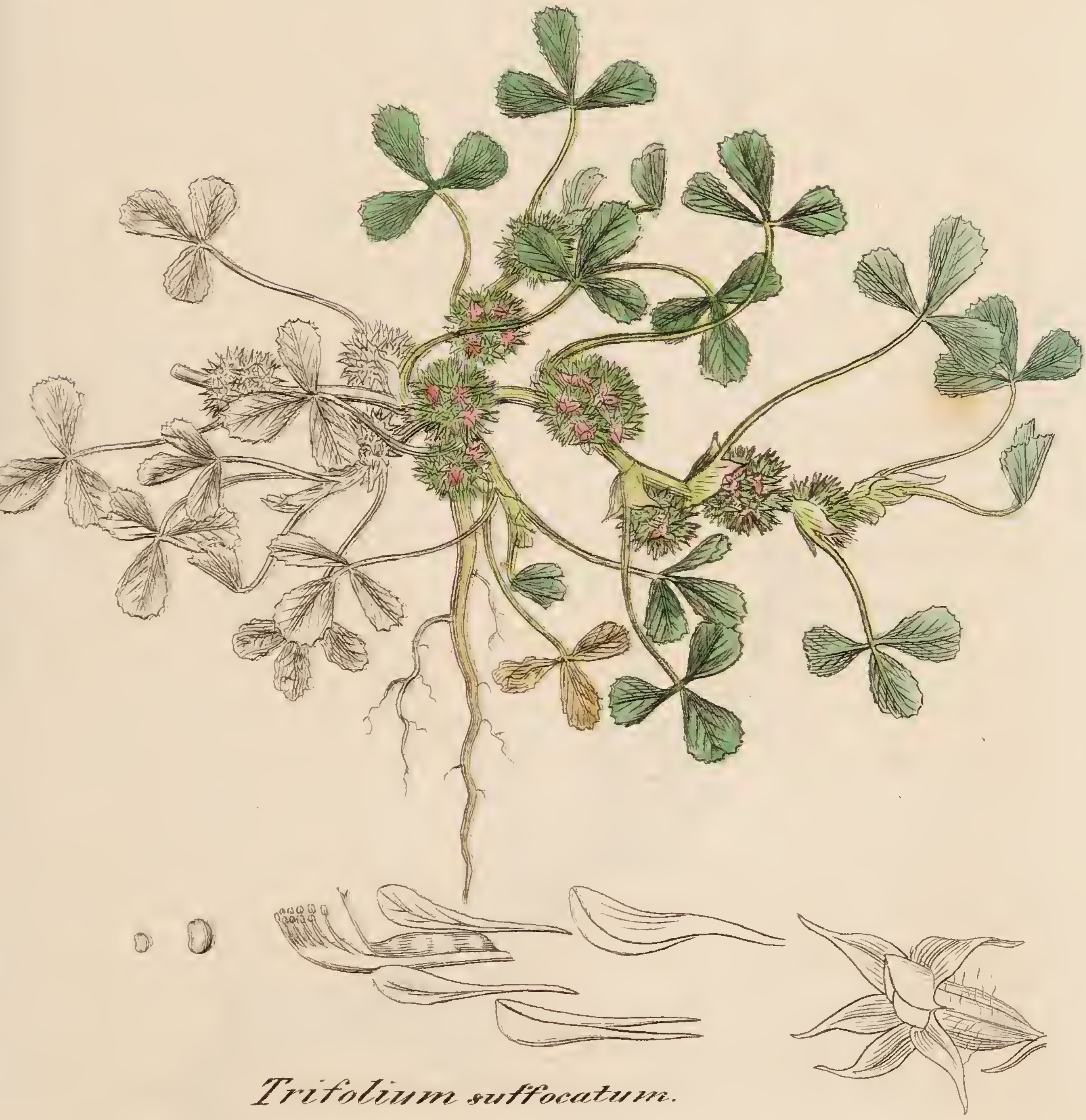


Trifolium striatum.

Feb.1.1808. Publish'd by Jas. Sowerby London.

1049.

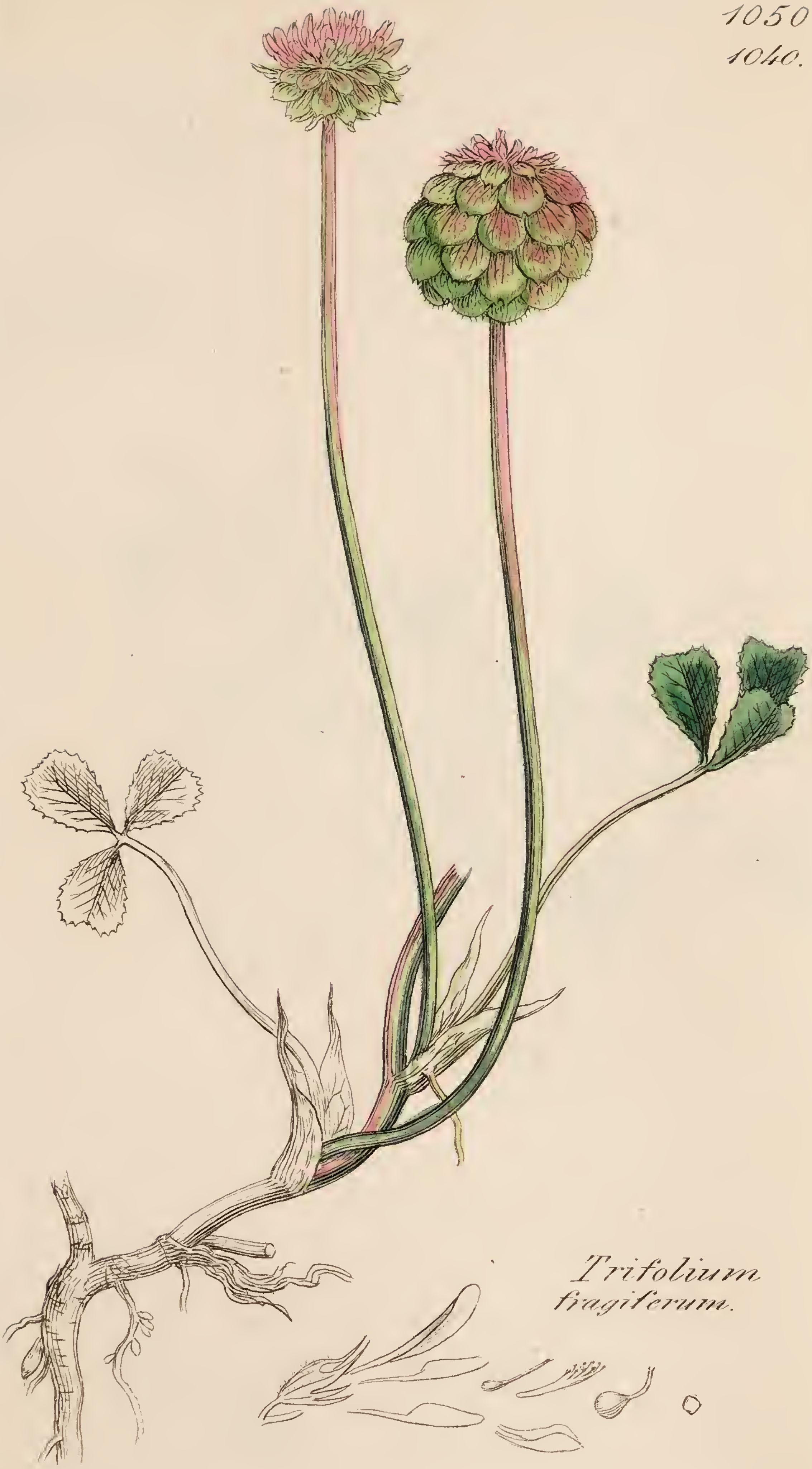
1039.



Trifolium suffocatum.

Jun. 1.1802. Publish'd by J. Sowerby London.

1050
1040.

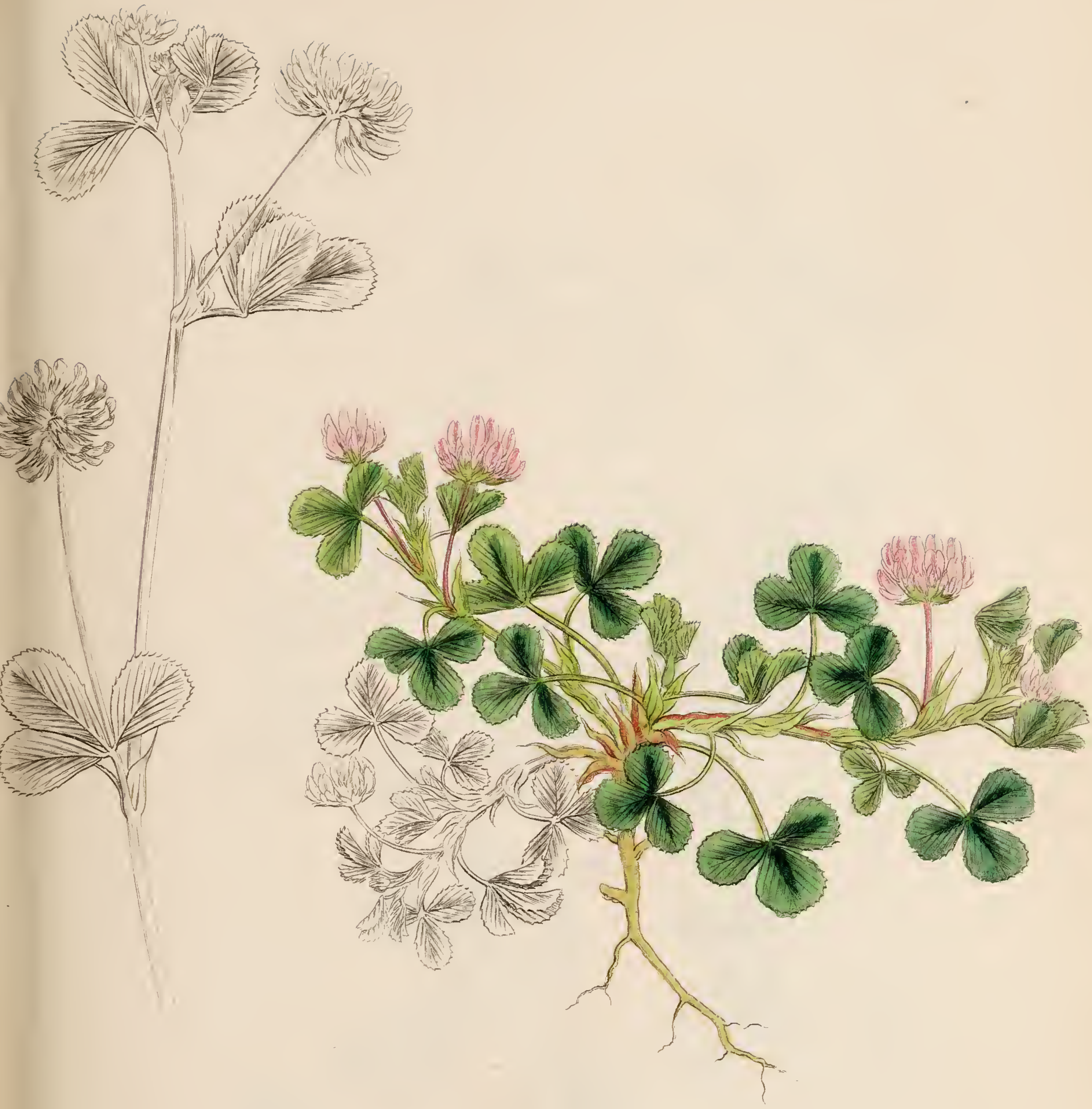


Trifolium fragiferum.

July 1. 1802 Publiſhed by Jas Sowerby. London.

2789

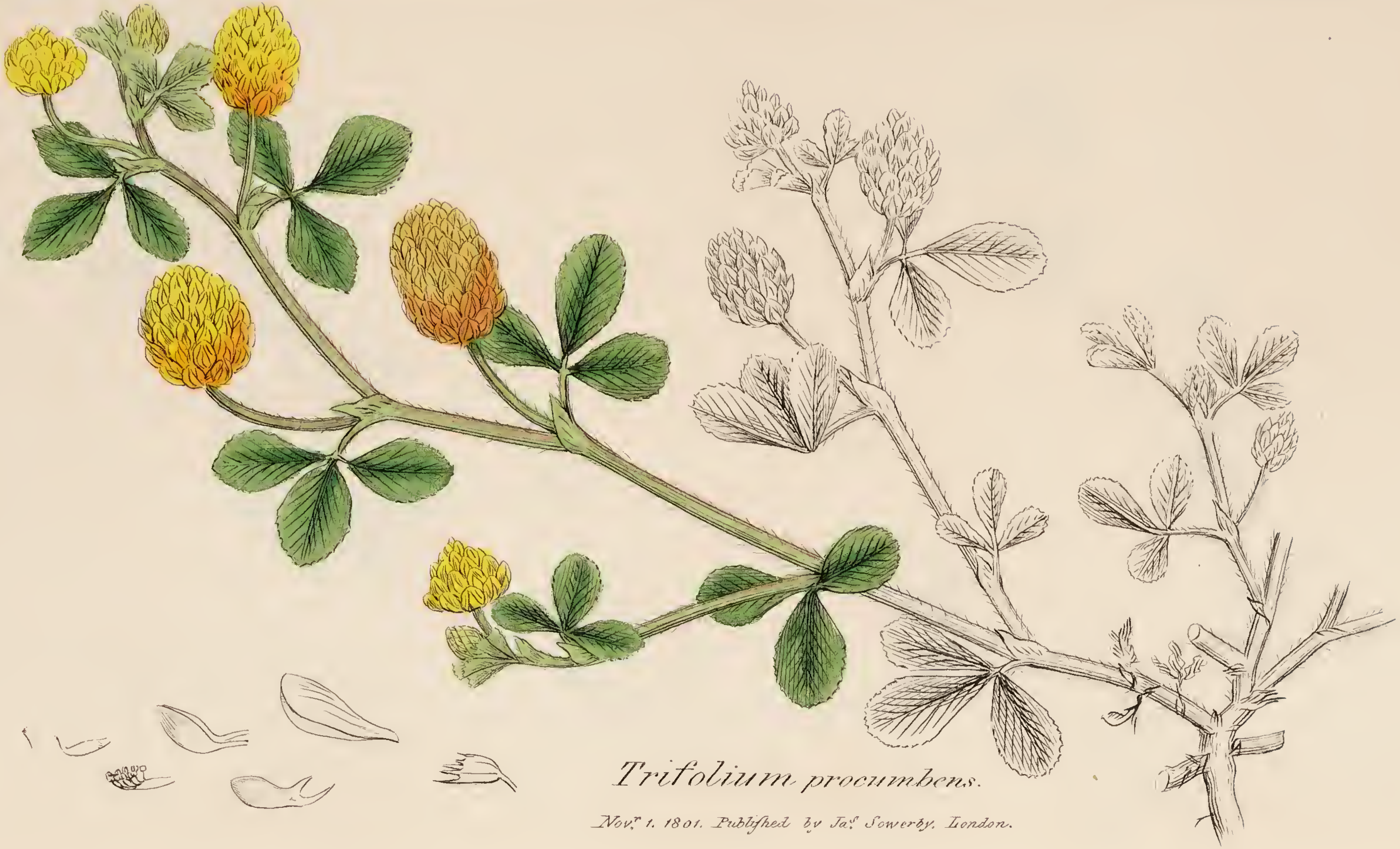
1040*



August 1st 1834

945

1041.

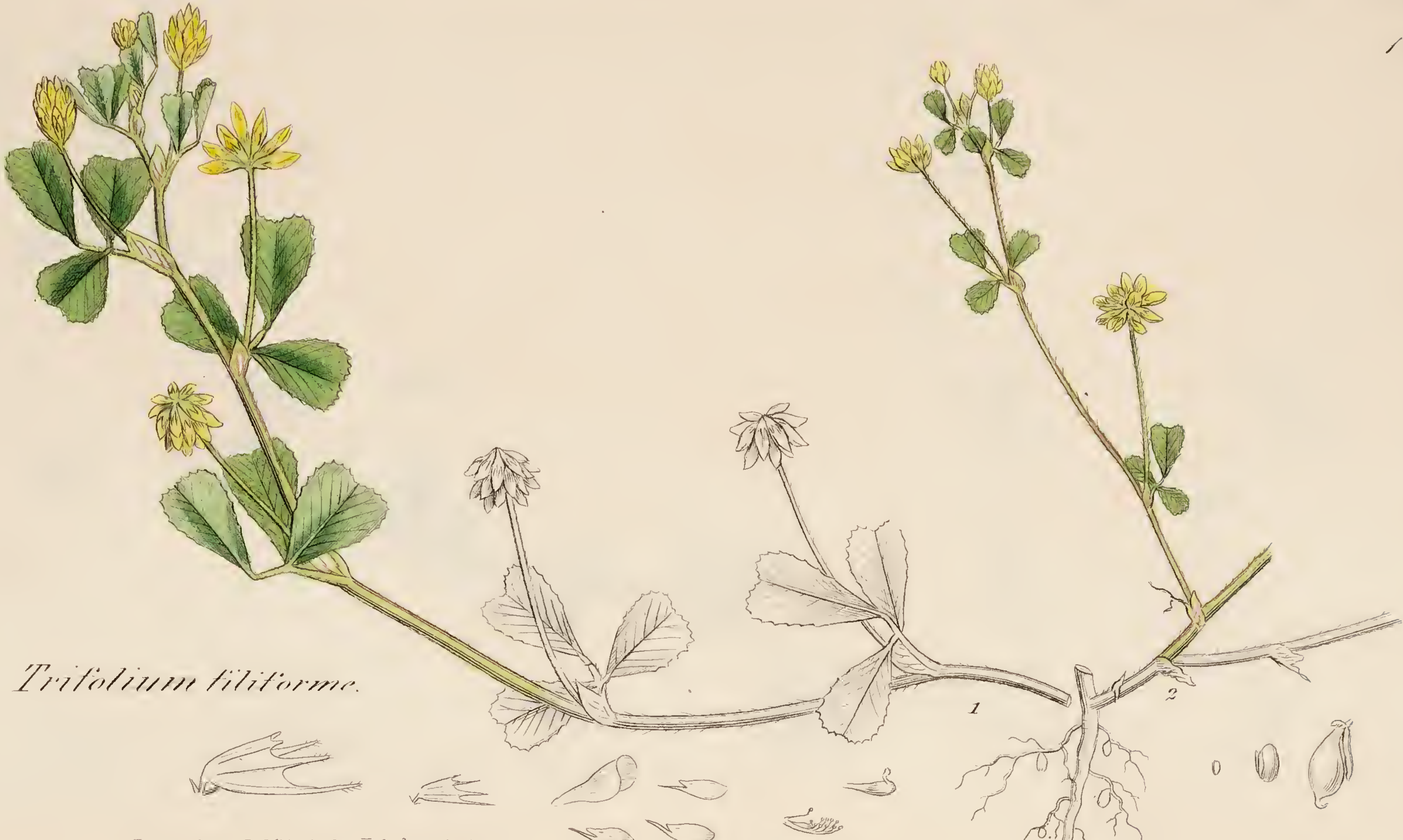


Trifolium procumbens.

Novr. 1. 1801. Publiſhed by Jas. Sowerby, London.

1256

1042.

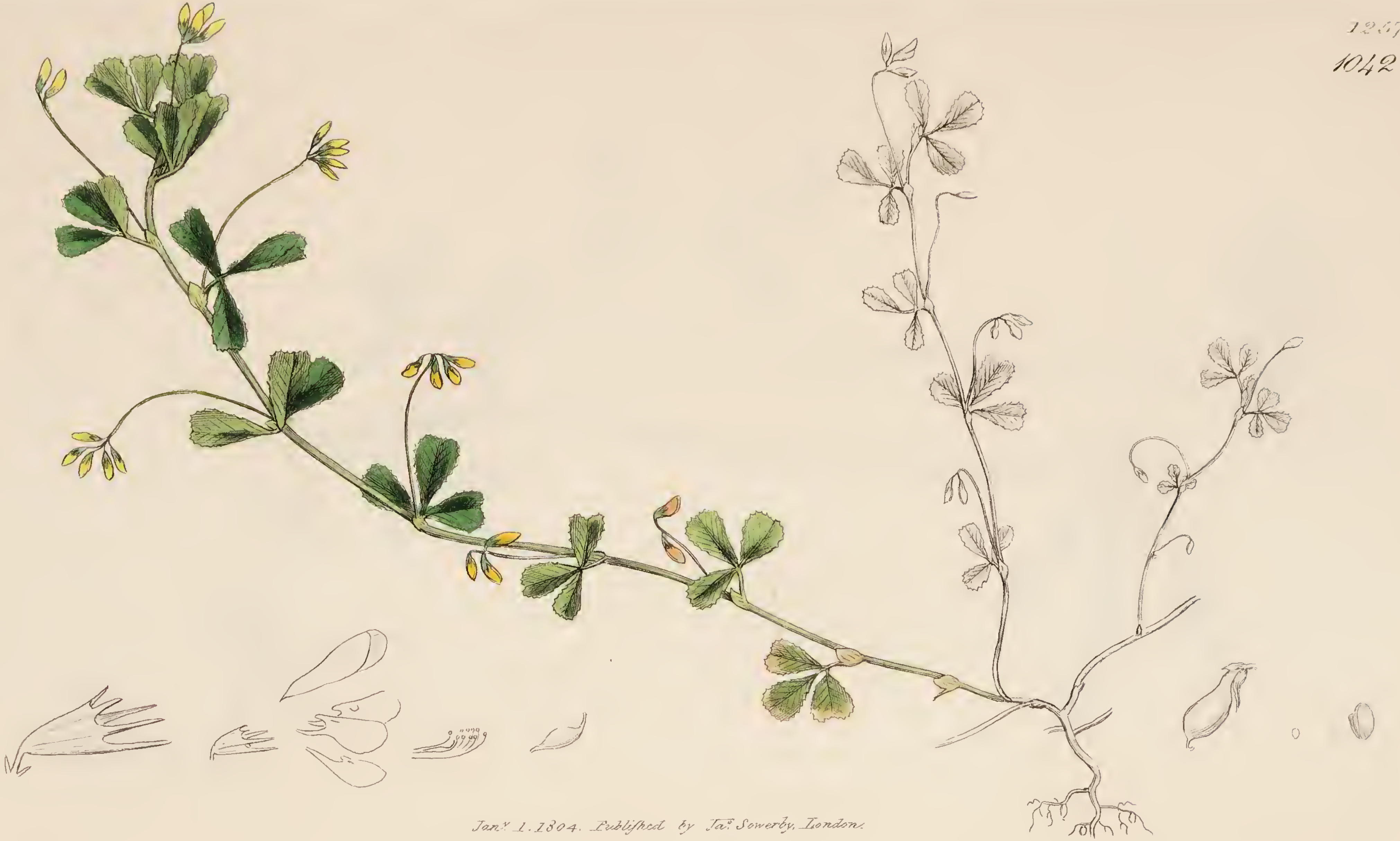


Trifolium filiforme.

Jany. 1. 1804. Published by Jas. Sowerby, London.

1257

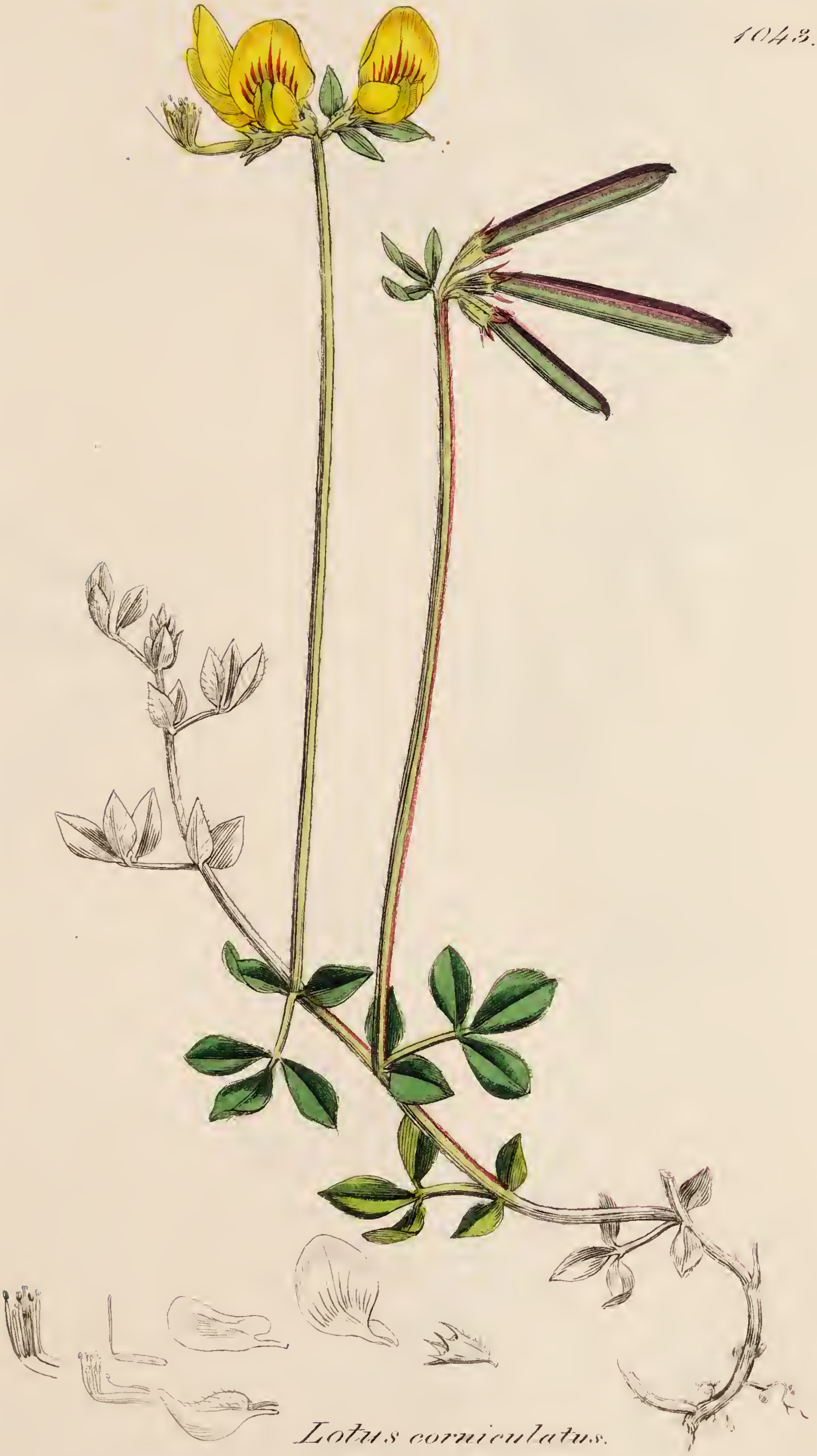
1042*



Jan.y 1. 1804. Publish'd by Ja.s Sowerby, London.

2090

1043.

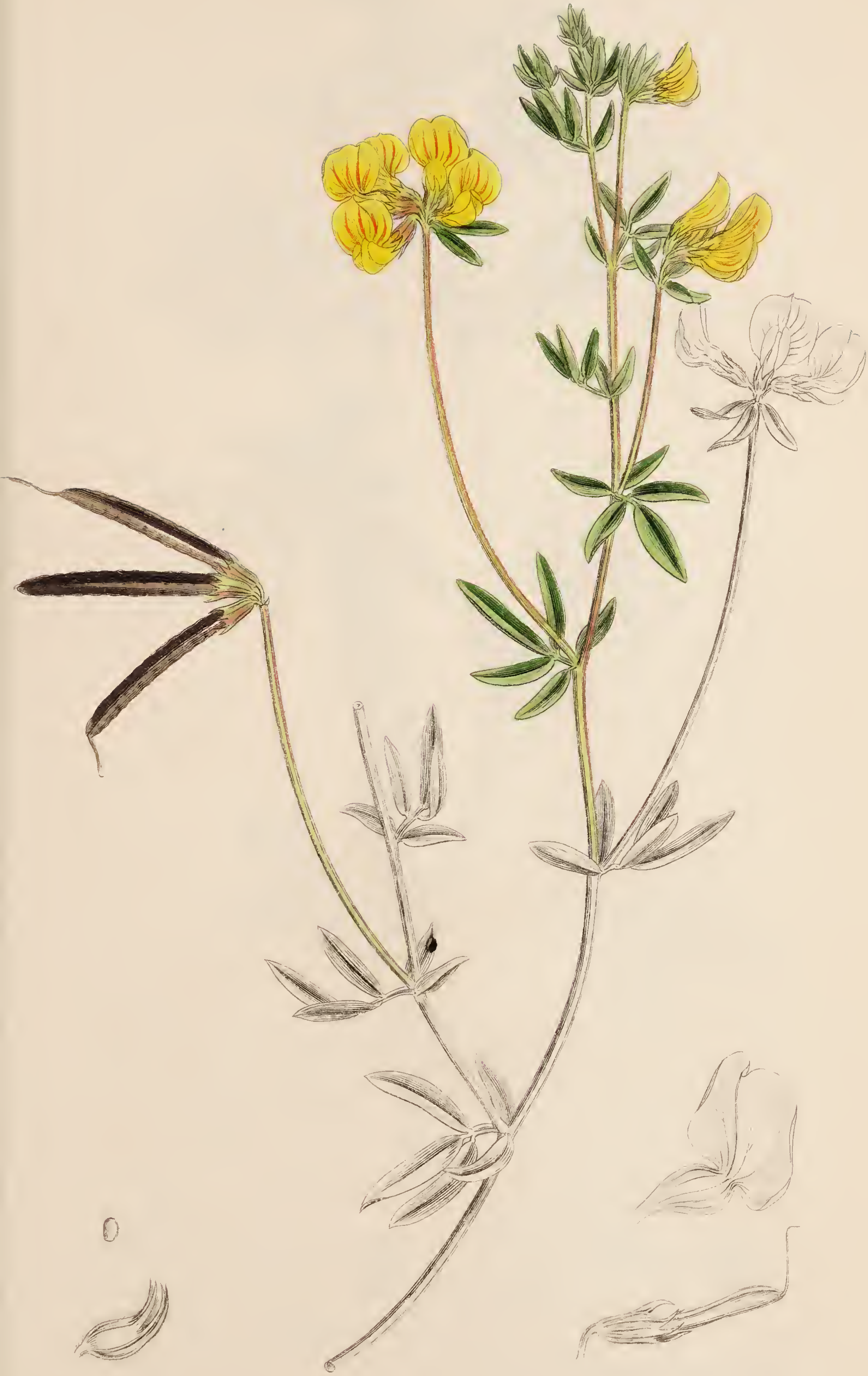


Lotus corniculatus.

Dec 1 1809 published by Jas Sowerby London

2615.

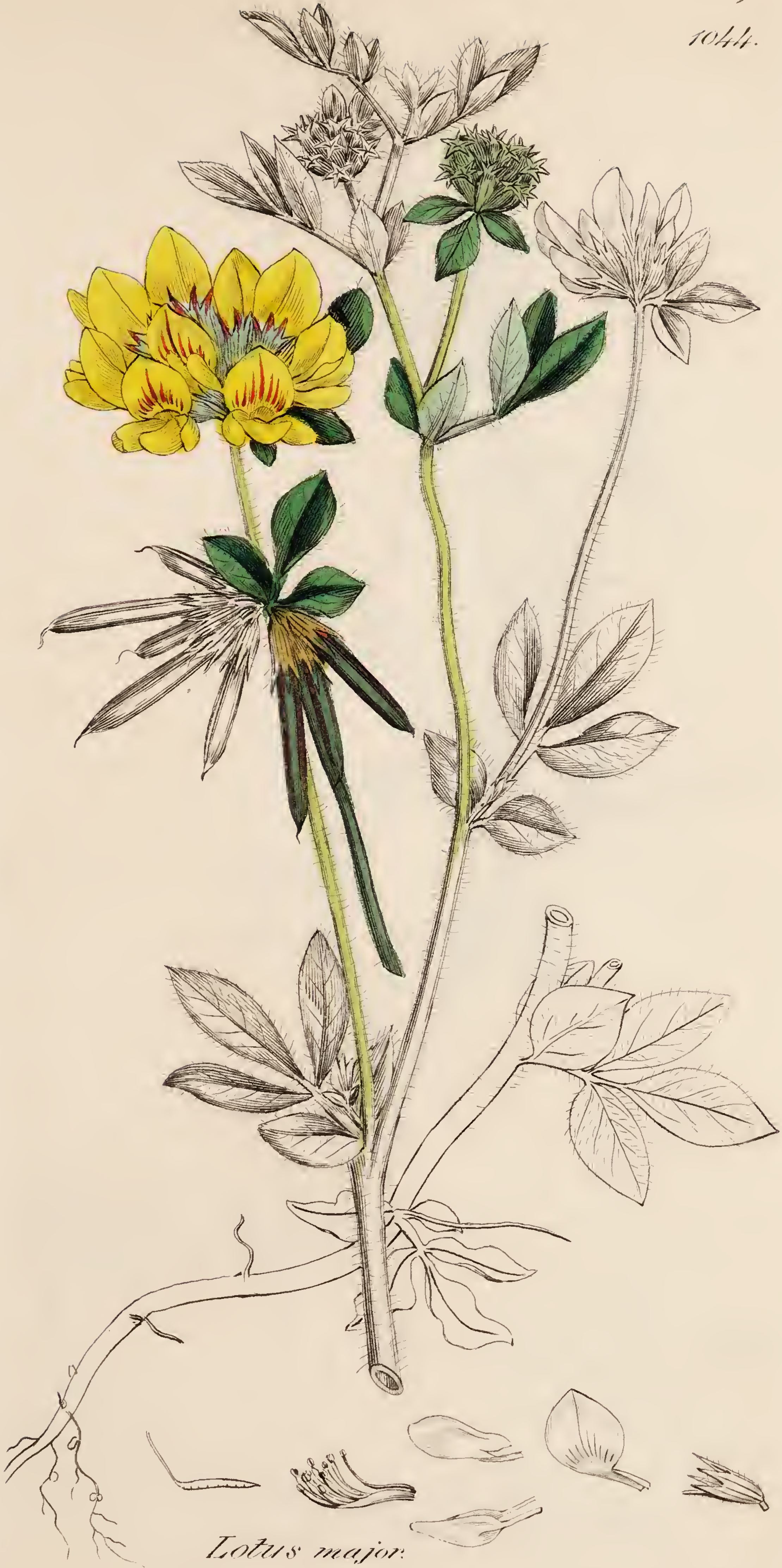
1043*



December 1st 1829.

2091

1044.

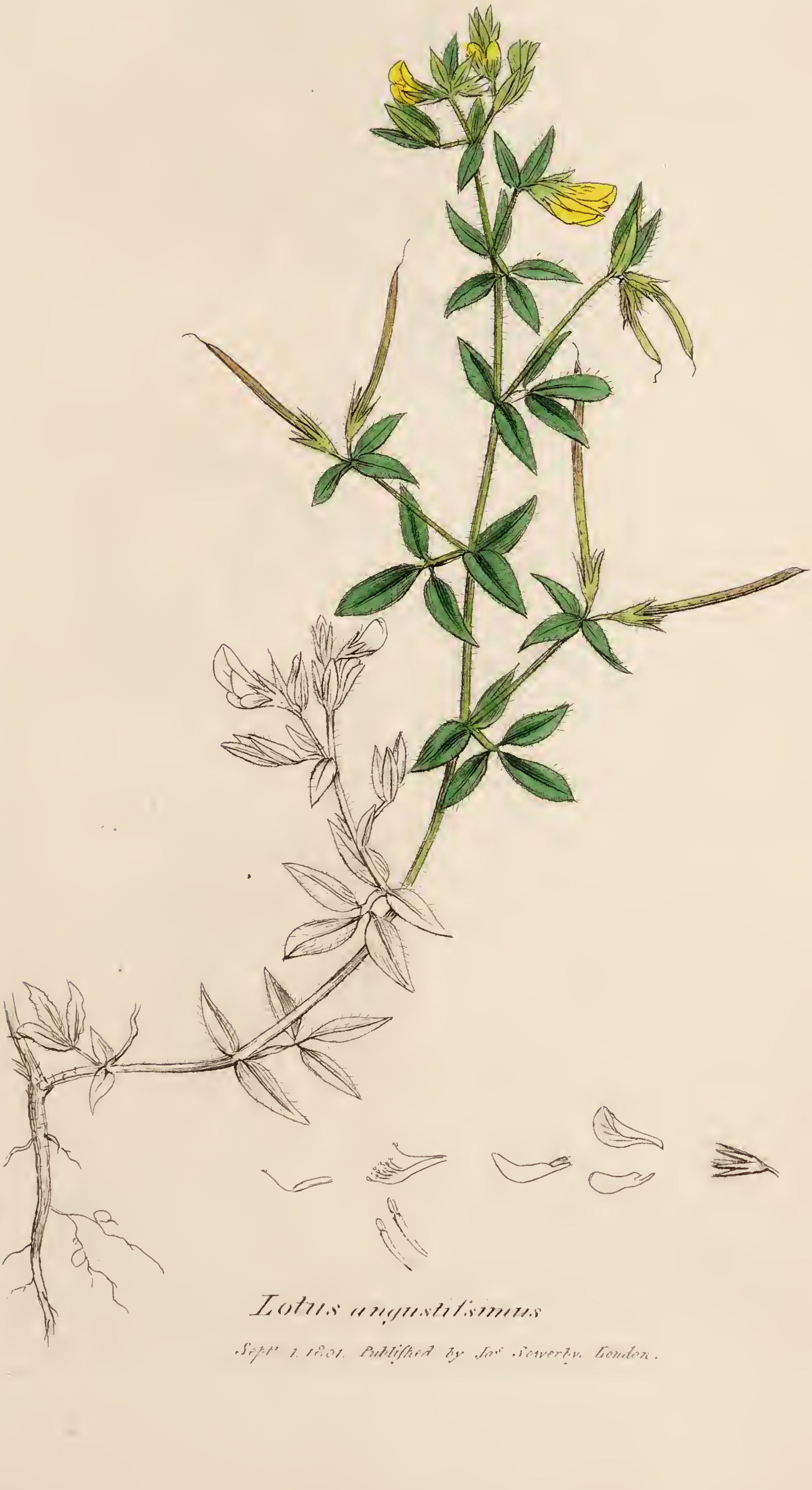


Lotus major.

Dec 1 1809 publish'd by Jas Sowerby London

925

1045.

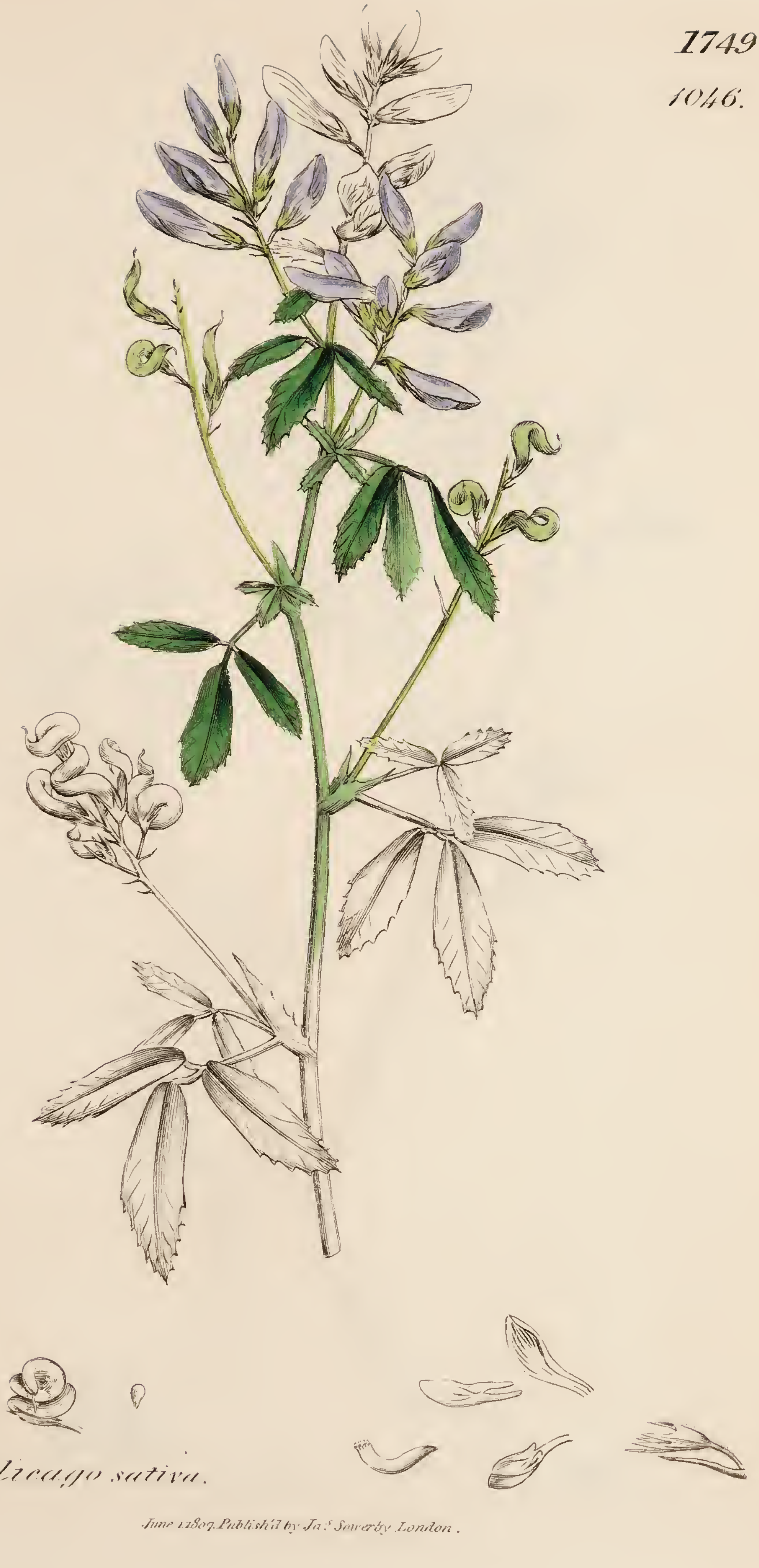


Lotus anguſtiſsimus

Sept. 1. 1801. Publiſhed by Jas Sowerby. London.

1749

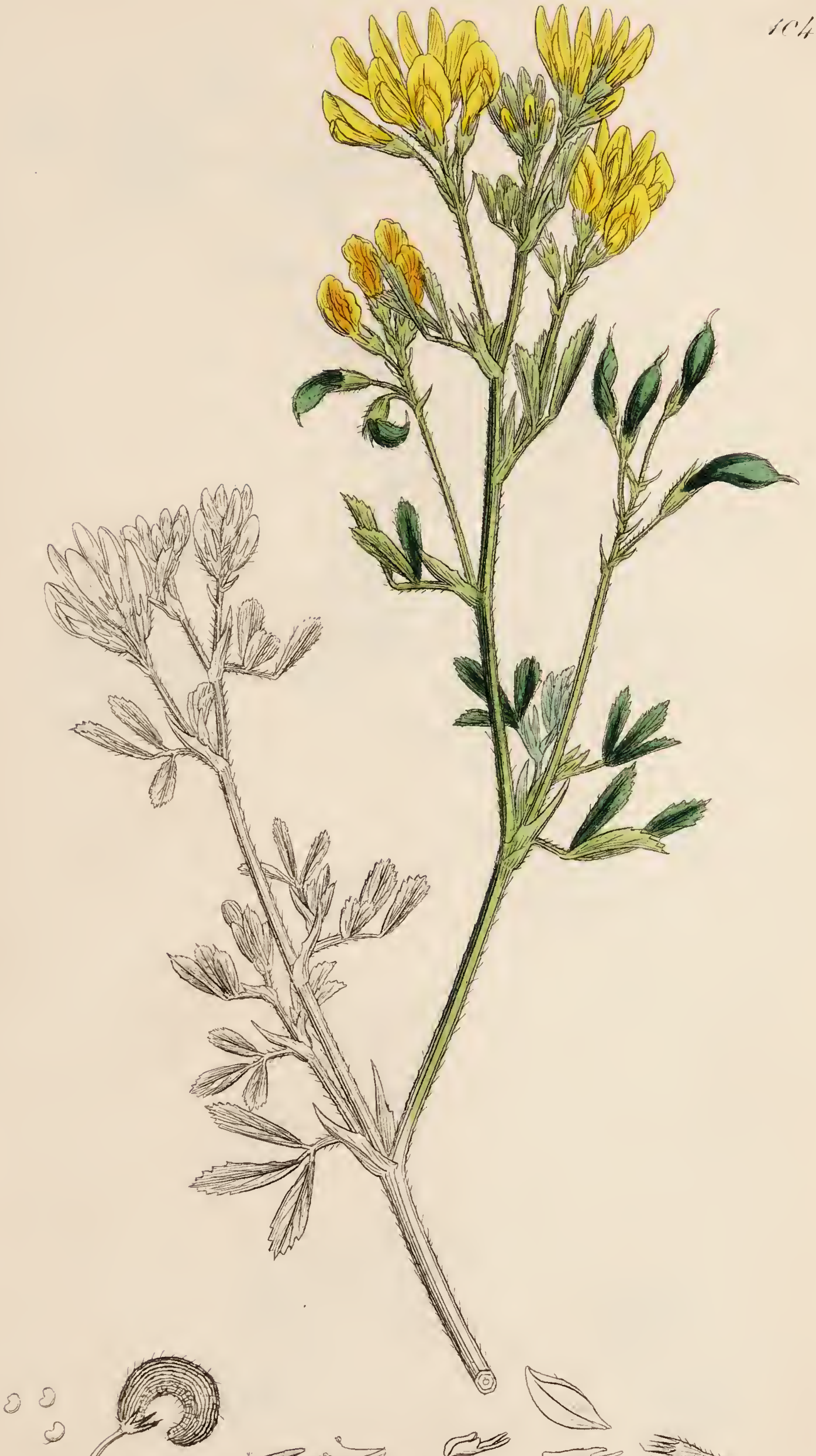
1046.



Medicago sativa.

June 1.1807. Publish'd by Ja.s Sowerby London.

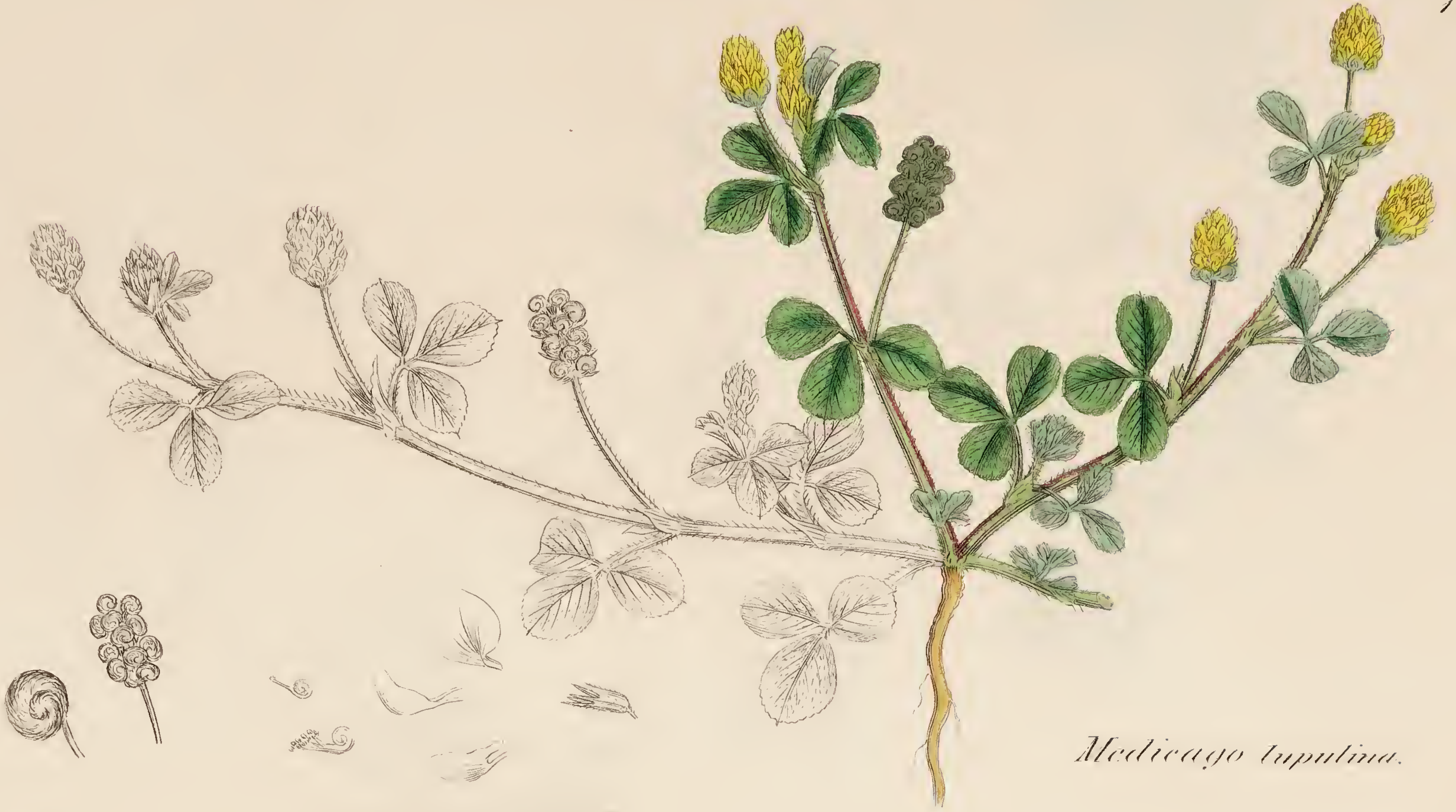
1016.
1047.



Medicago falcata.

[illegible]

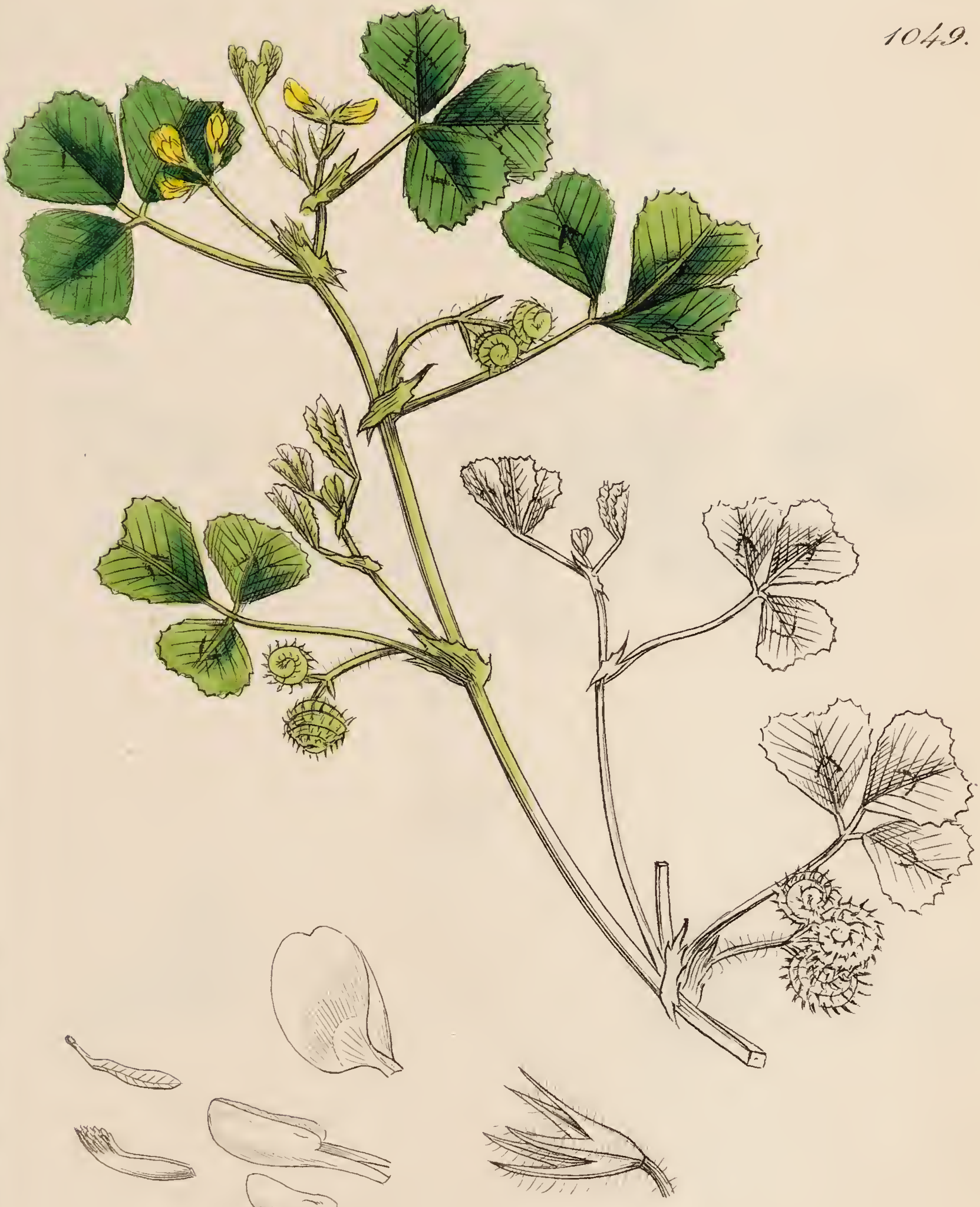
971
1048.



Medicago lupulina.

1616

1049.

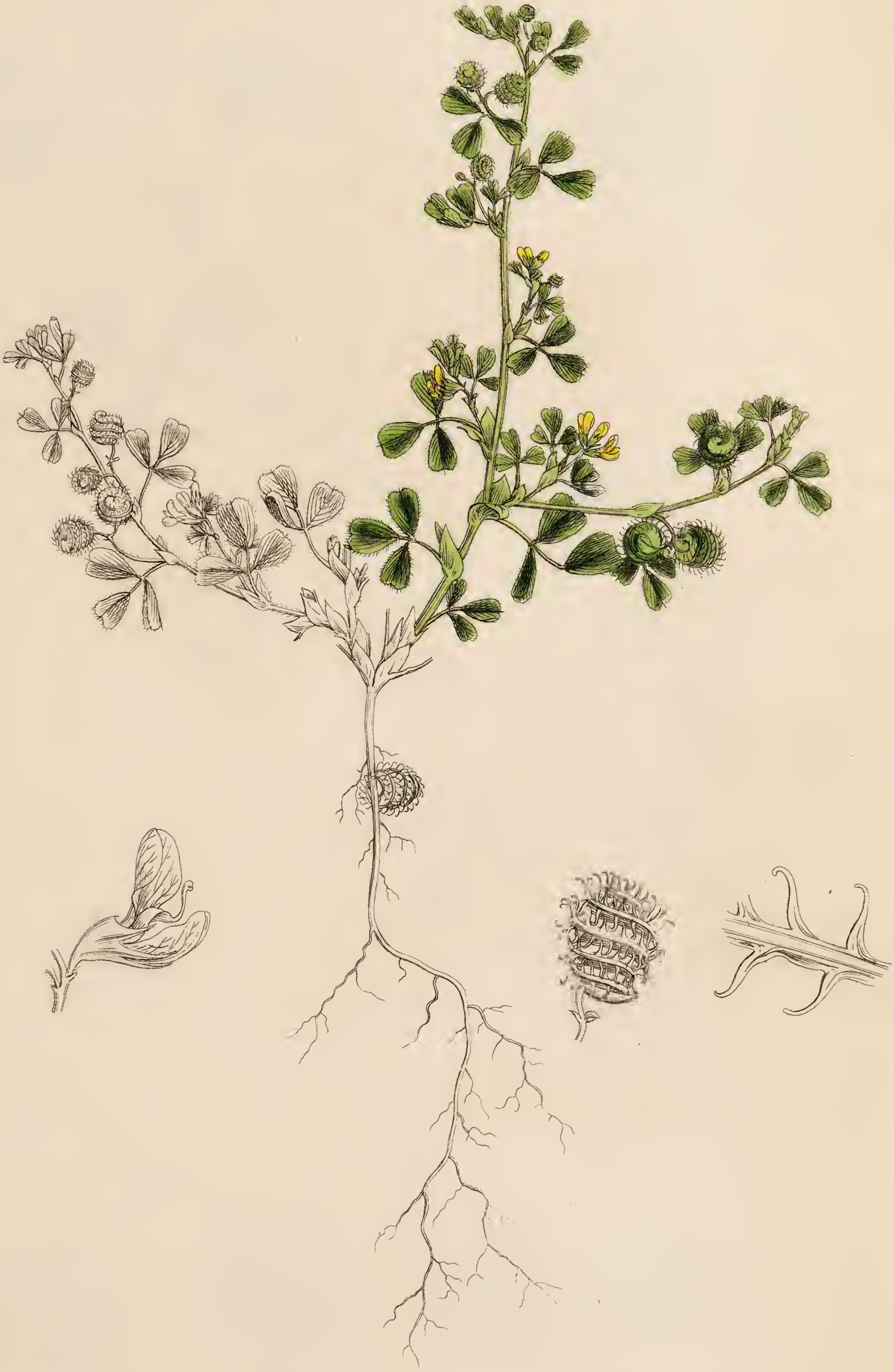


Medicago maculata.

July 1.1806. Publish'd by Ja.s Sowerby, London.

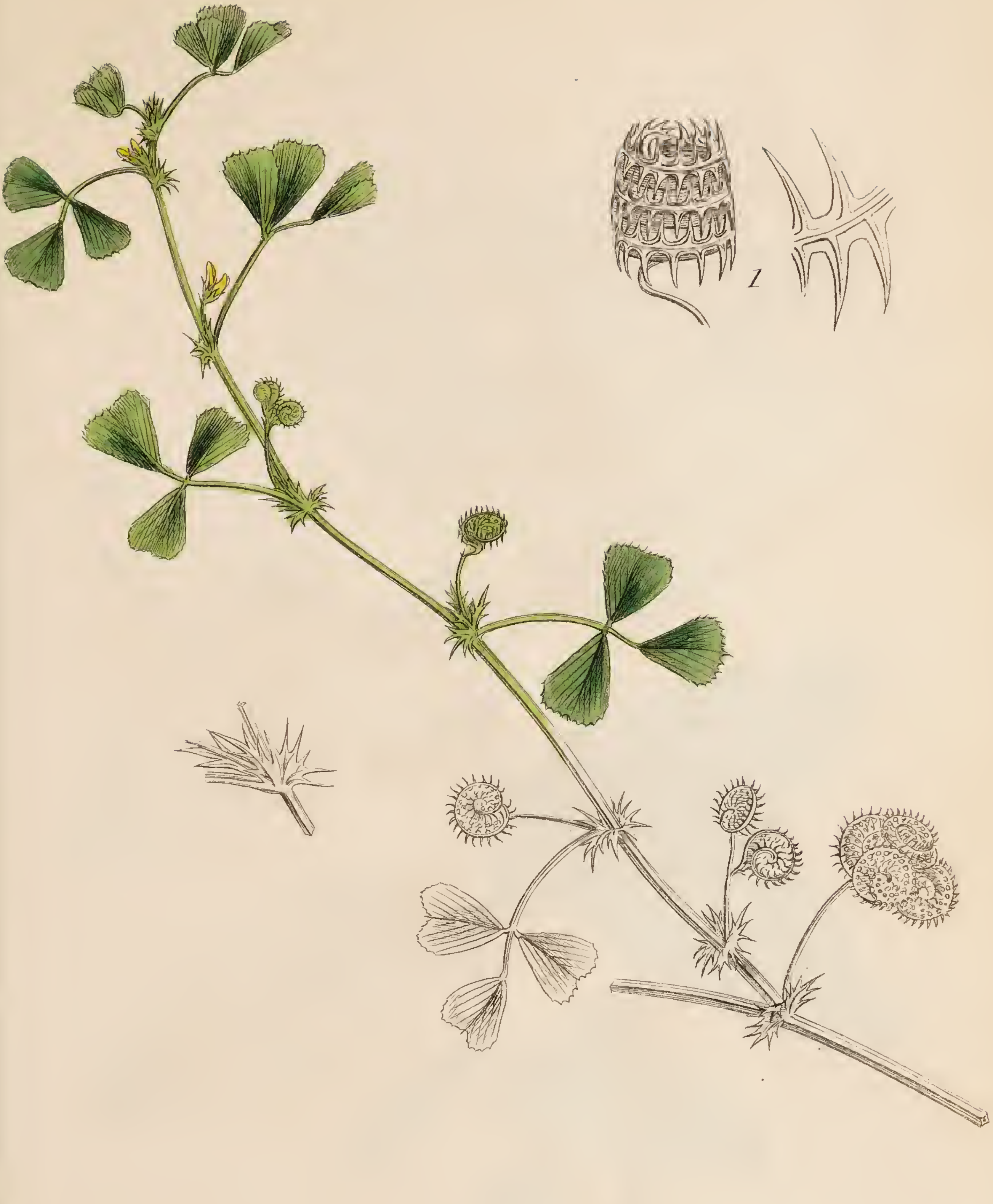
2635.

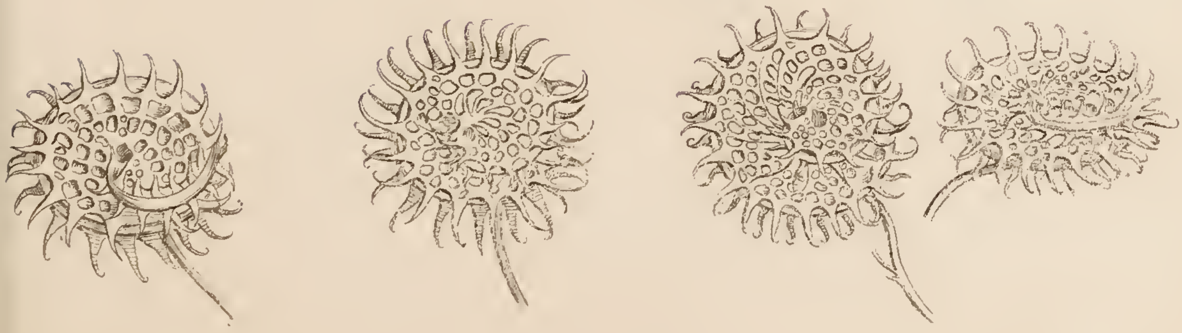
1049 *



April 1st 1830.

2634.
1049**

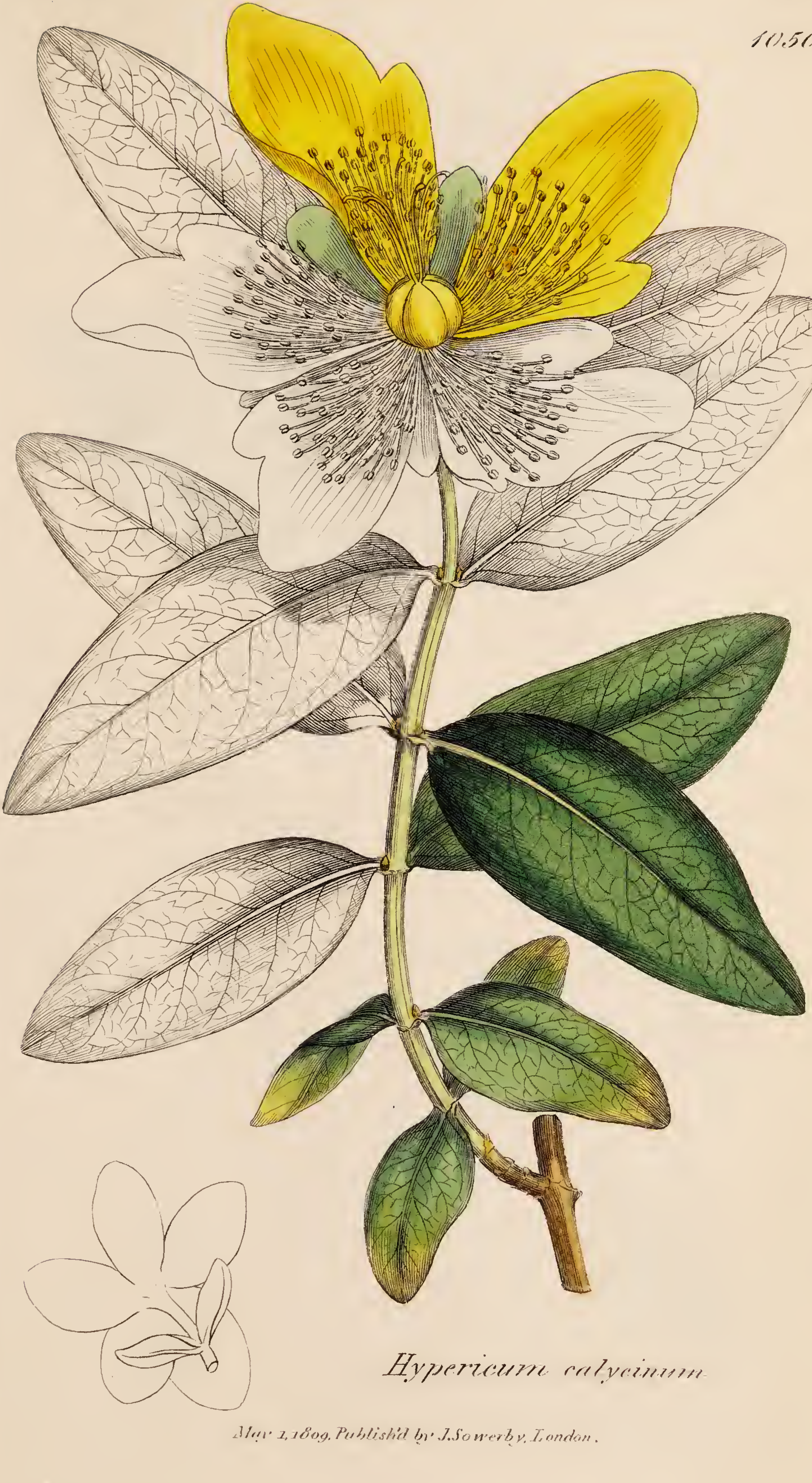




April 1st 1830.

2017

1050.

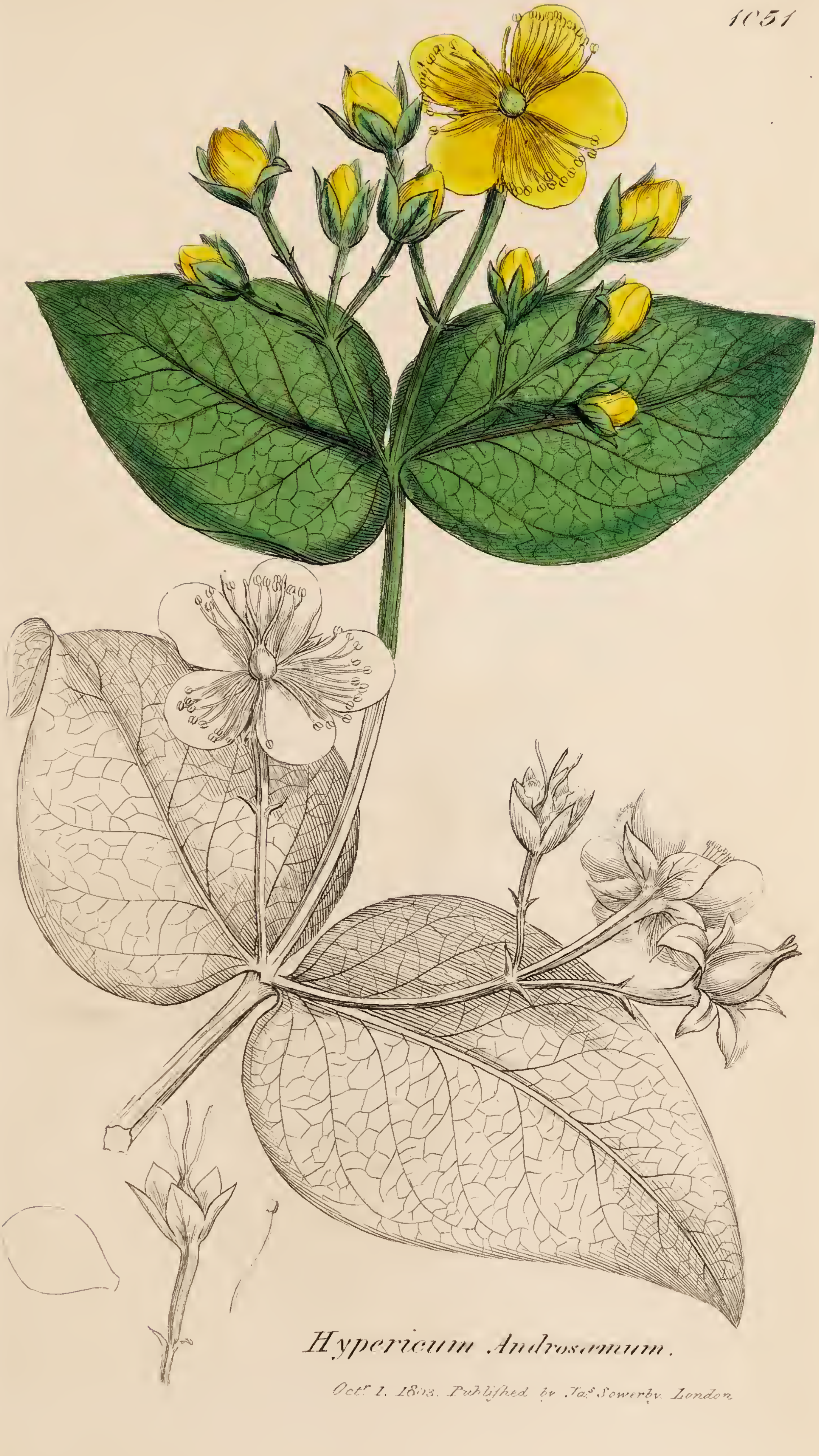


Hypericum calycinum

May 1, 1809, Publish'd by J. Sowerby, London.

1225

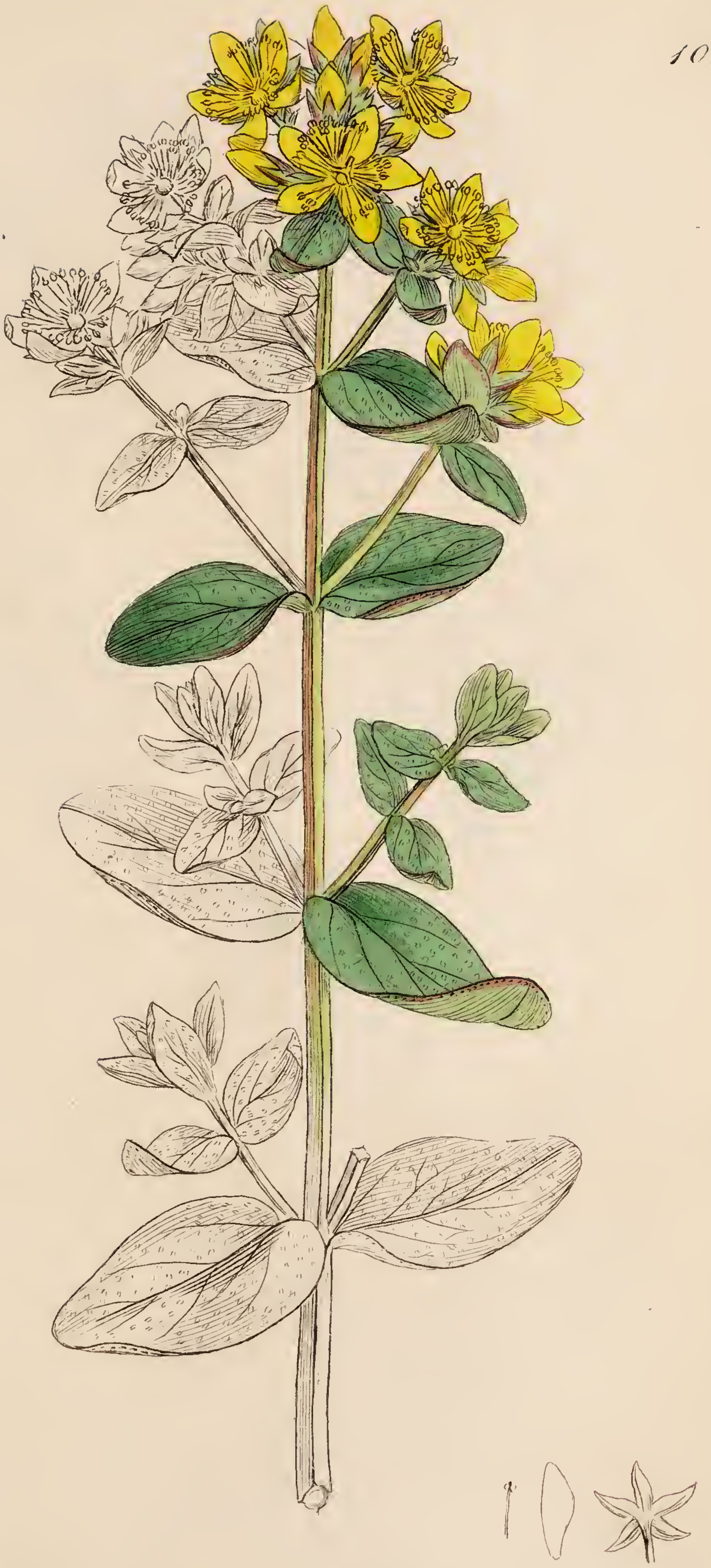
1051



Hypericum Androsæmum.

Octr. 1. 1803. Published by Jas. Sowerby. London

1052.

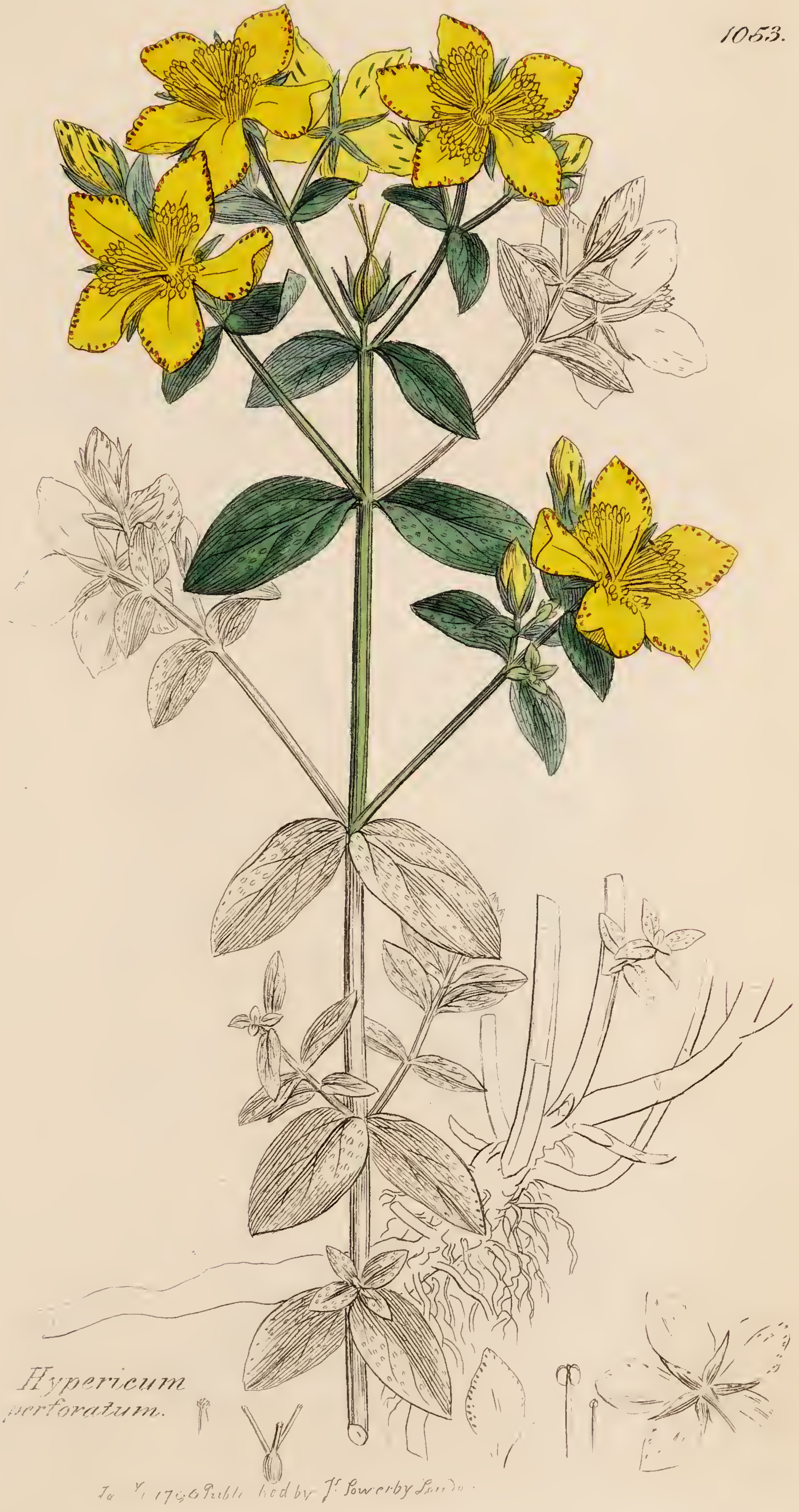


Hypericum quadrangulum.

Ja.y 1 1797 Published by J. Sowerby London

295

1053.

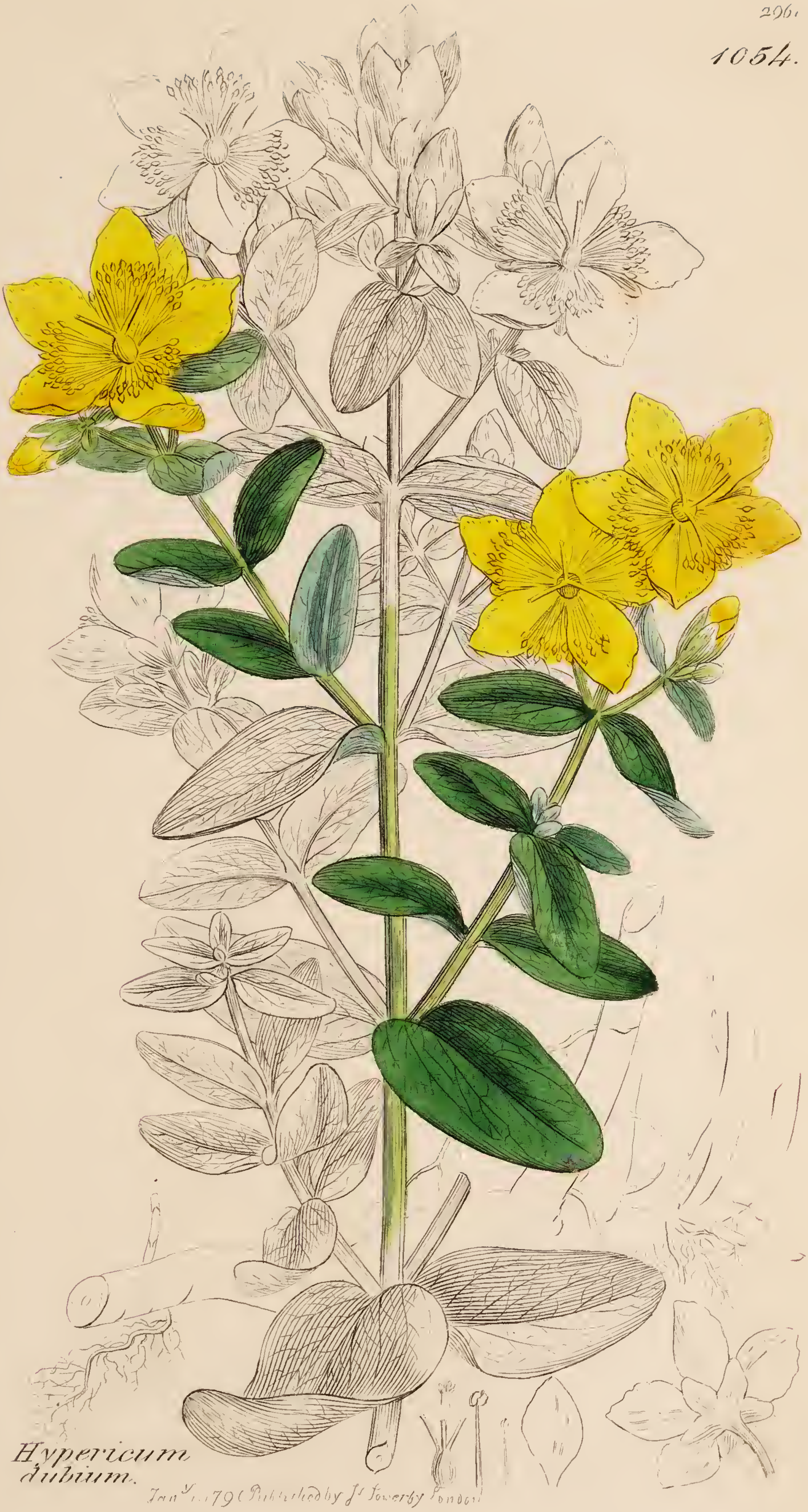


Hypericum perforatum.

Jan.y 1 1799 Publish'd by J.s Sowerby London

296.

1054.

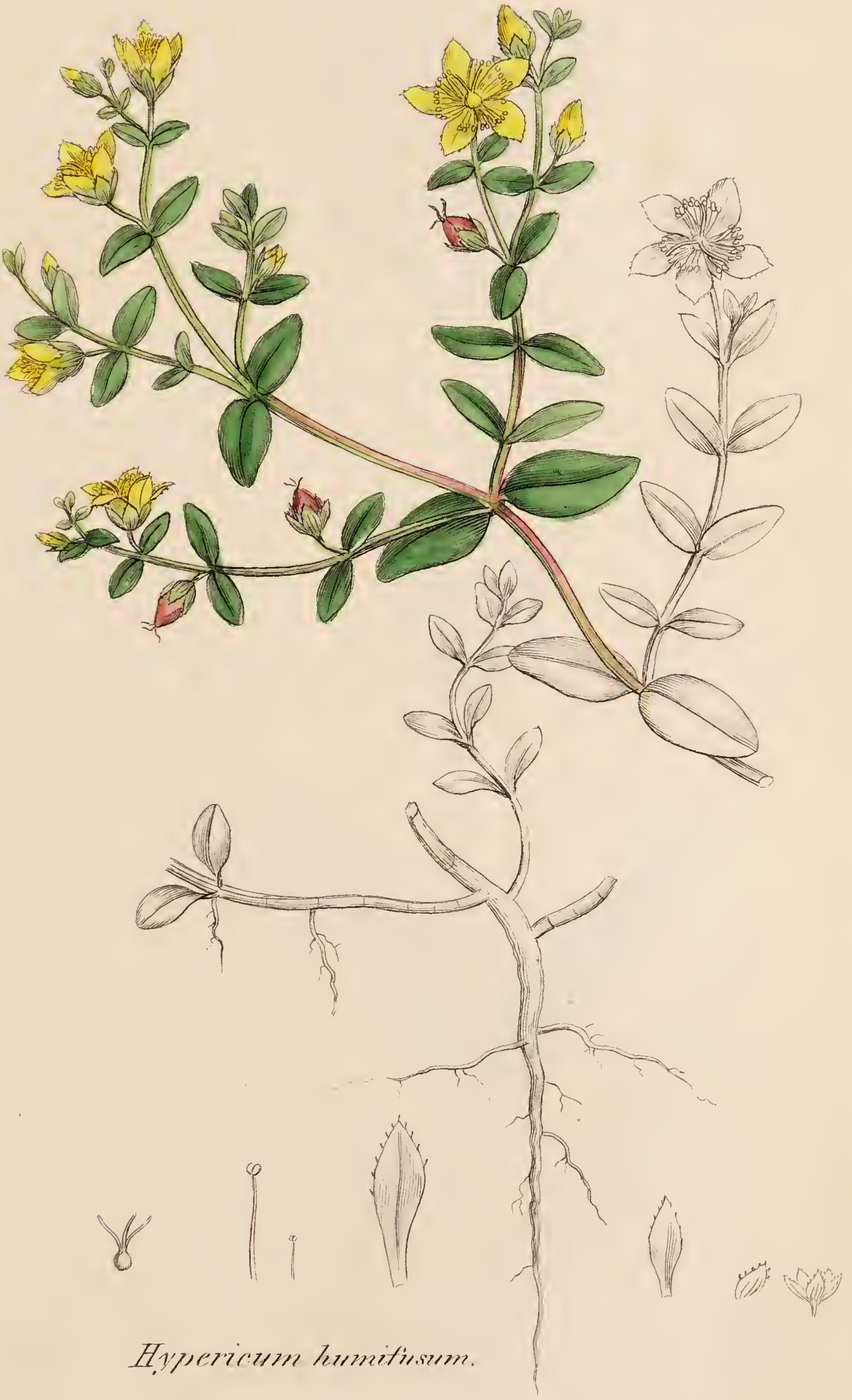


Hypericum dubium.

Jan^{y} 1. 1796 Published by J^{s} Sowerby London

1226

1055.

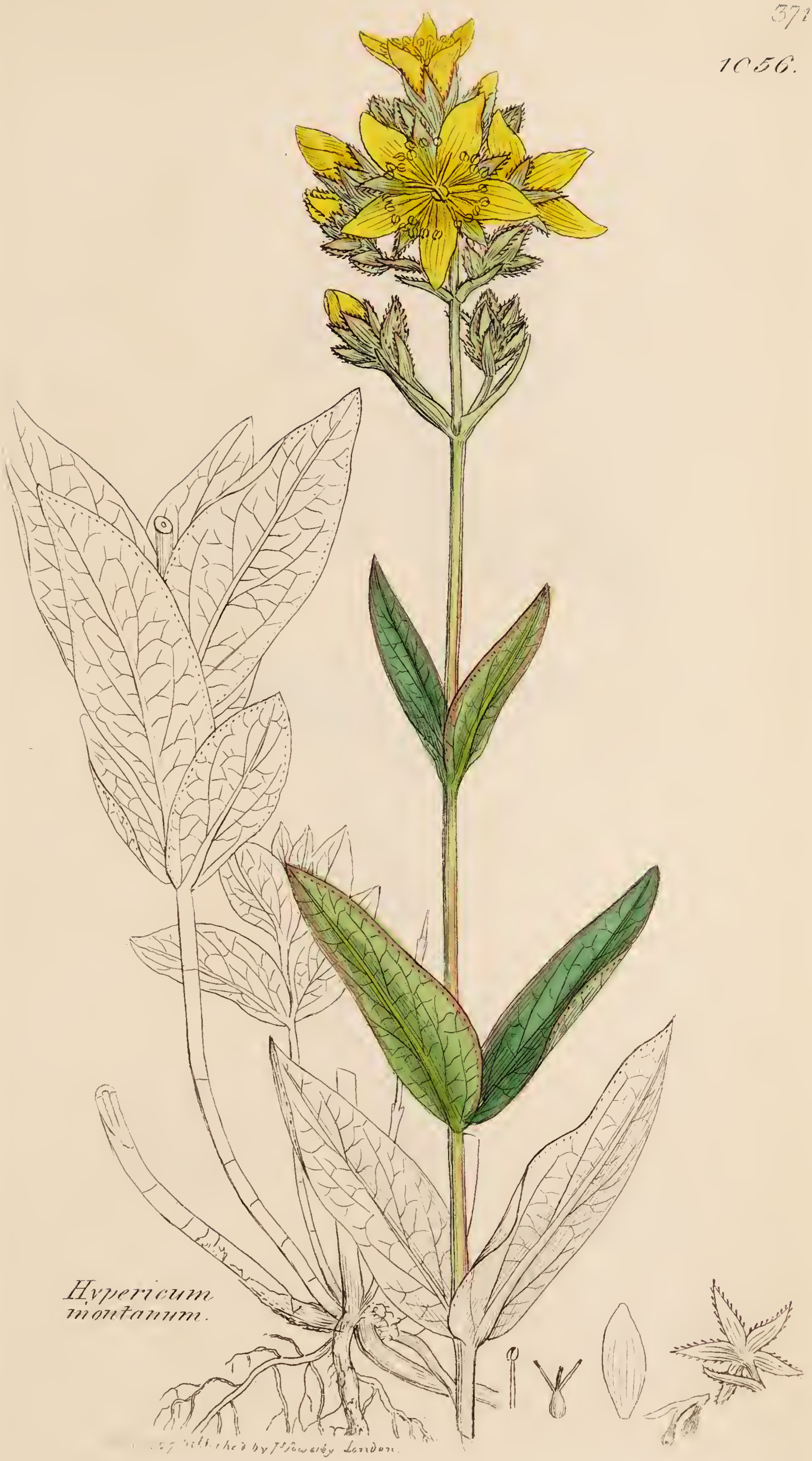


Hypericum humifusum.

Octr. 1. 1803. Publiſhed by Jas. Sowerby, London.

371.

1056.

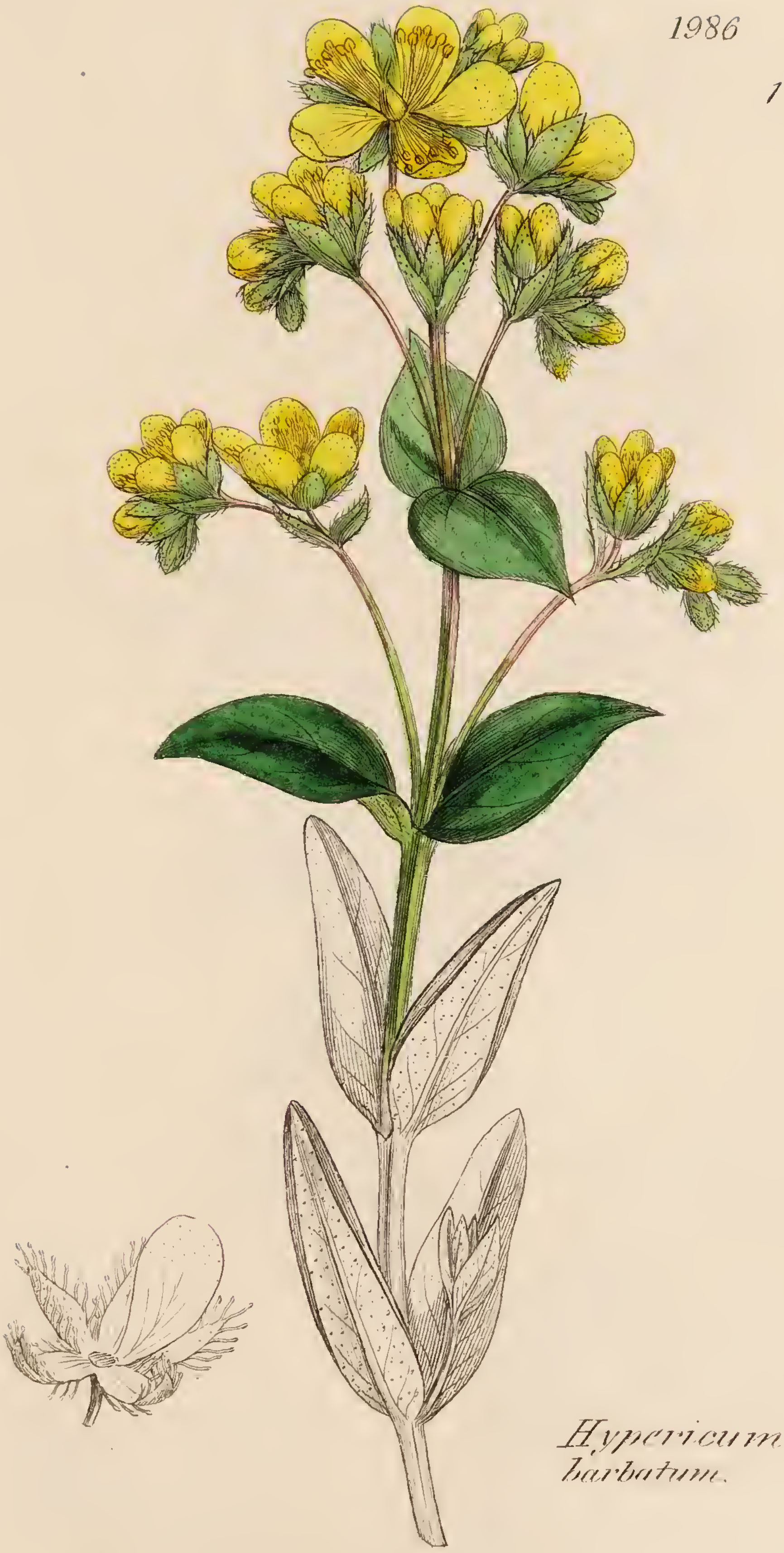


Hypericum montanum.

Published by Js Sowerby London.

1986

1057.

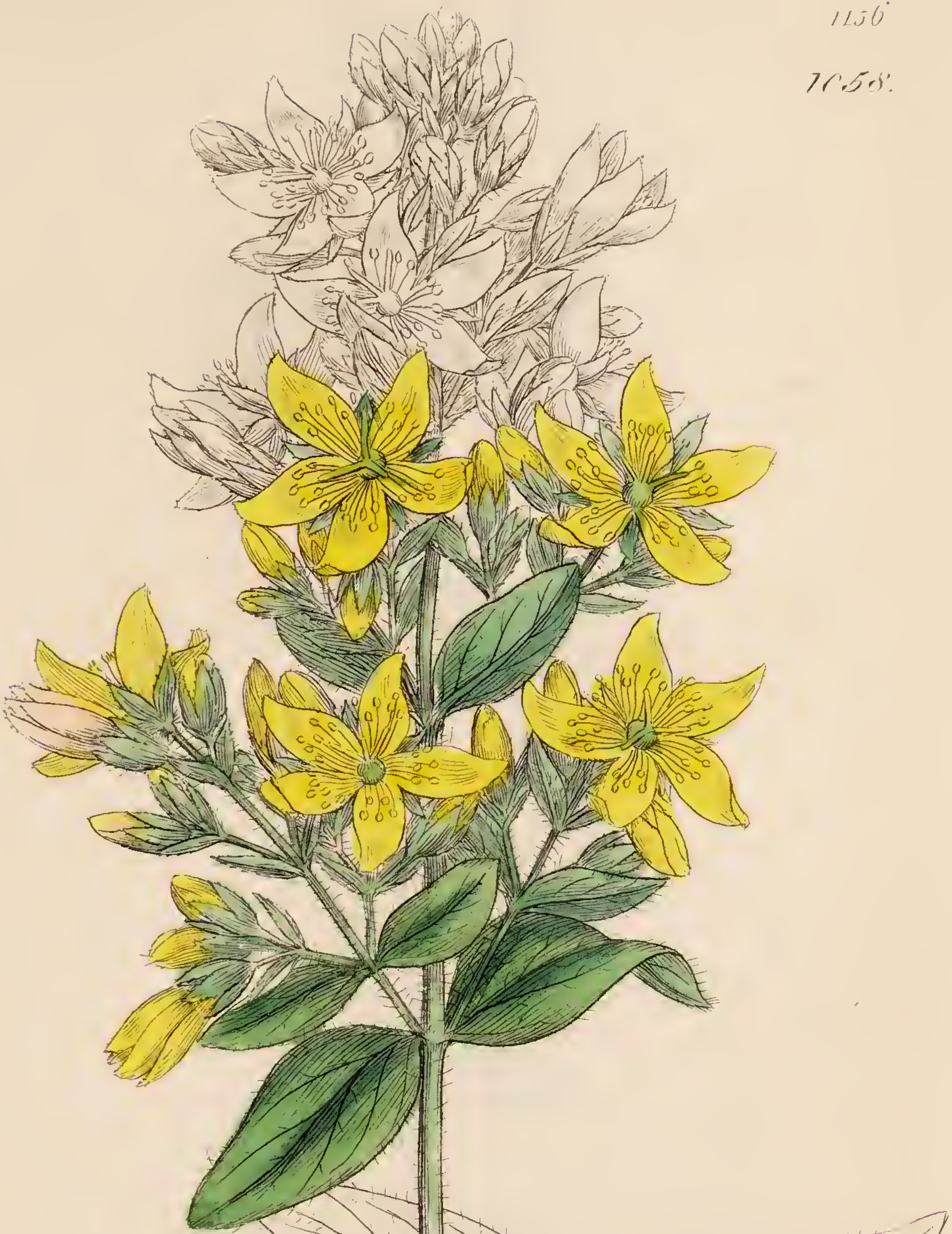


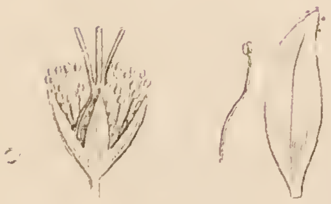
Hypericum barbatum.

Feb 1 1809 Publish'd by Jas. Sowerby London

1156

1058.



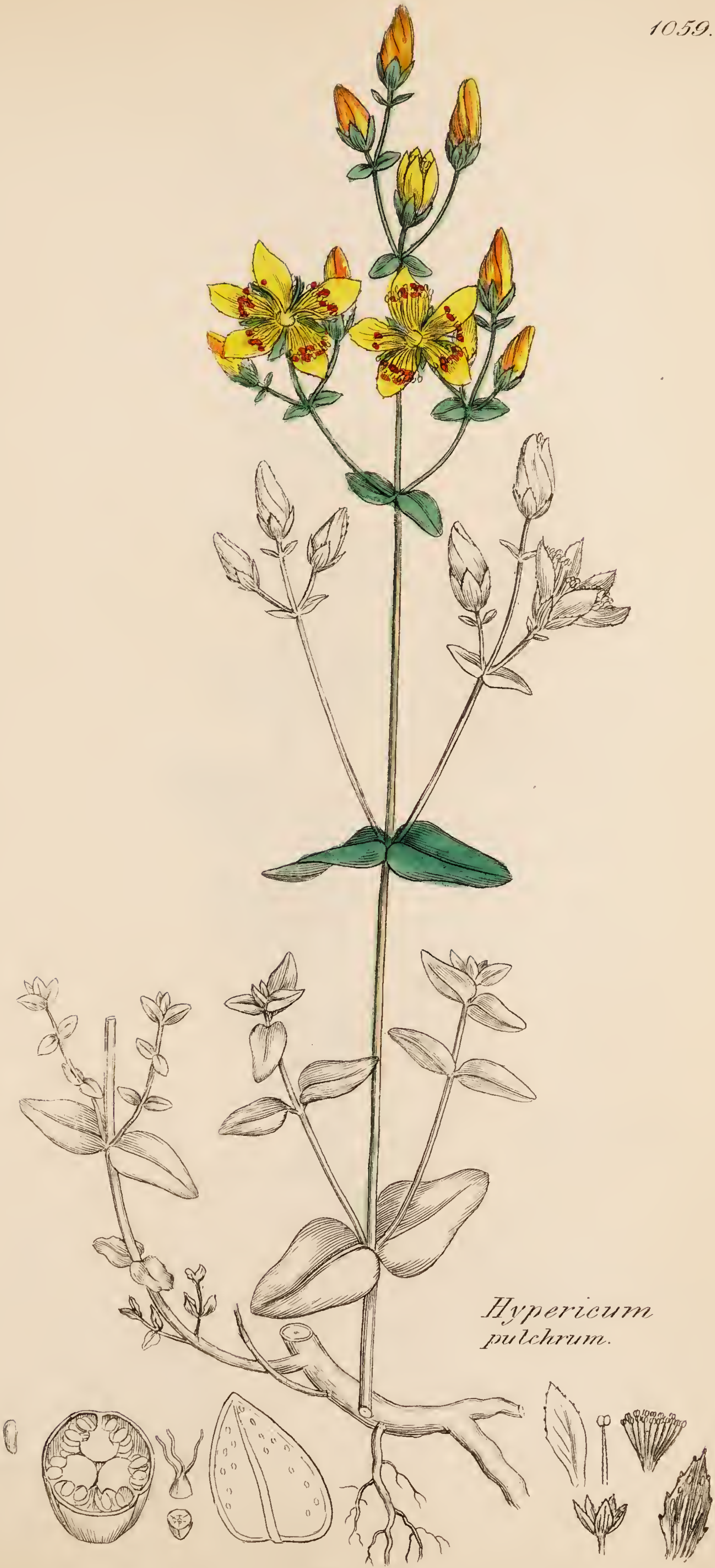


Hypericum hirsutum.

Ap. 1. 1803. Publiſhed by Ja^{s} Sowerby London.

1227

1059.

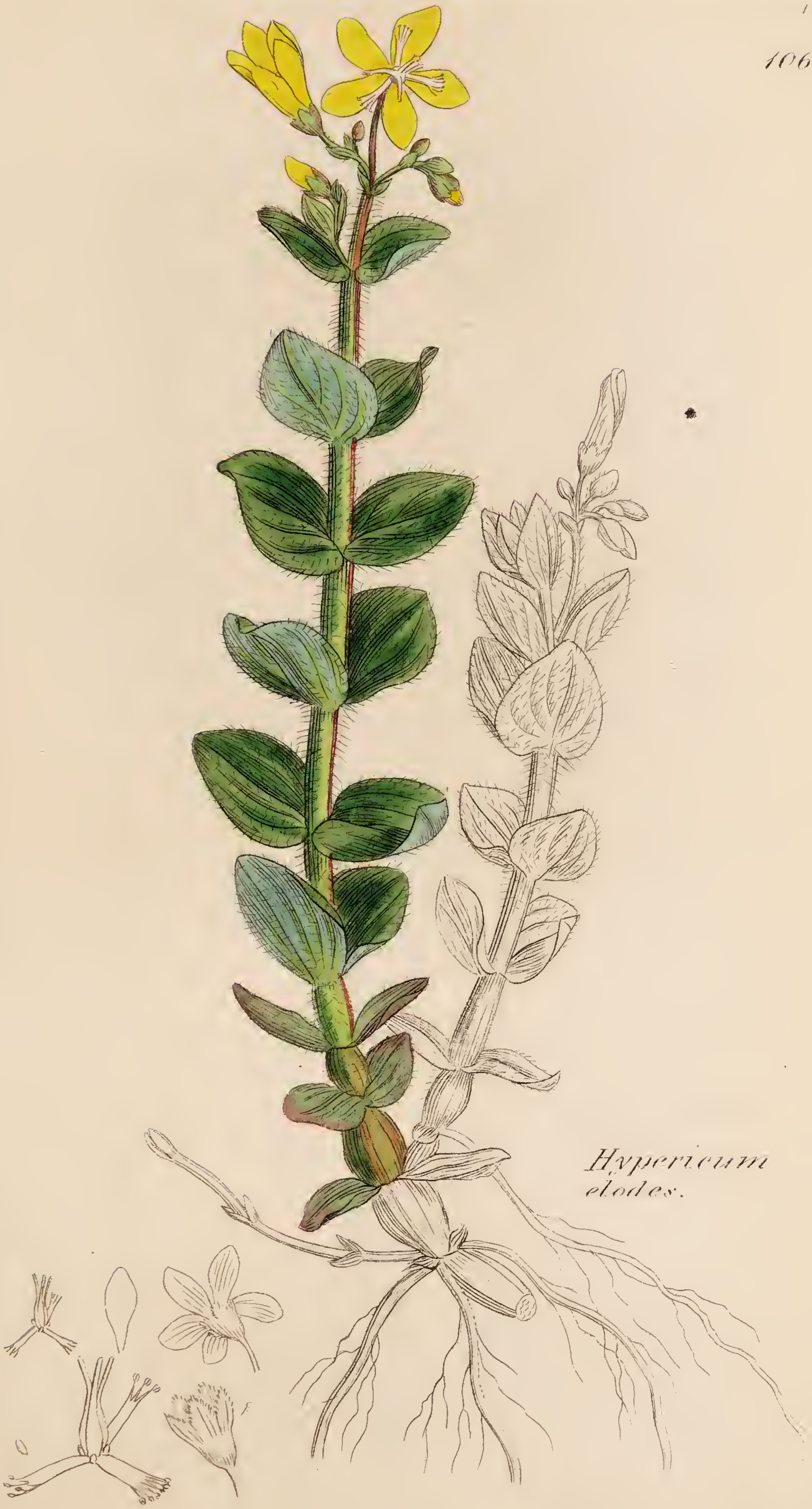


Hypericum pulchrum.

Octr. 1. 1803. Publiſhed by Jas. Sowerby, London.

109

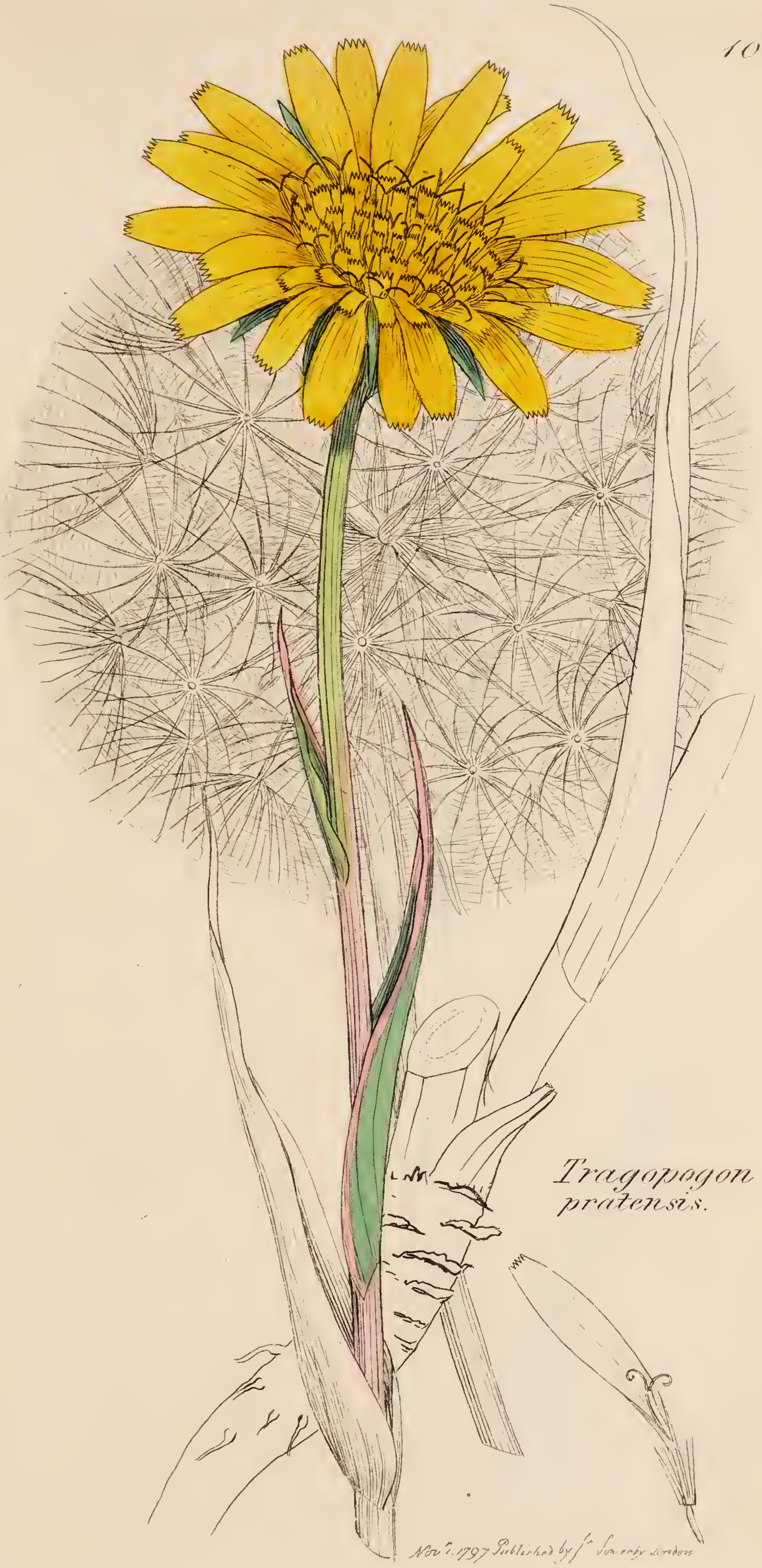
1060.



Hypericum elodes.

134

1061.

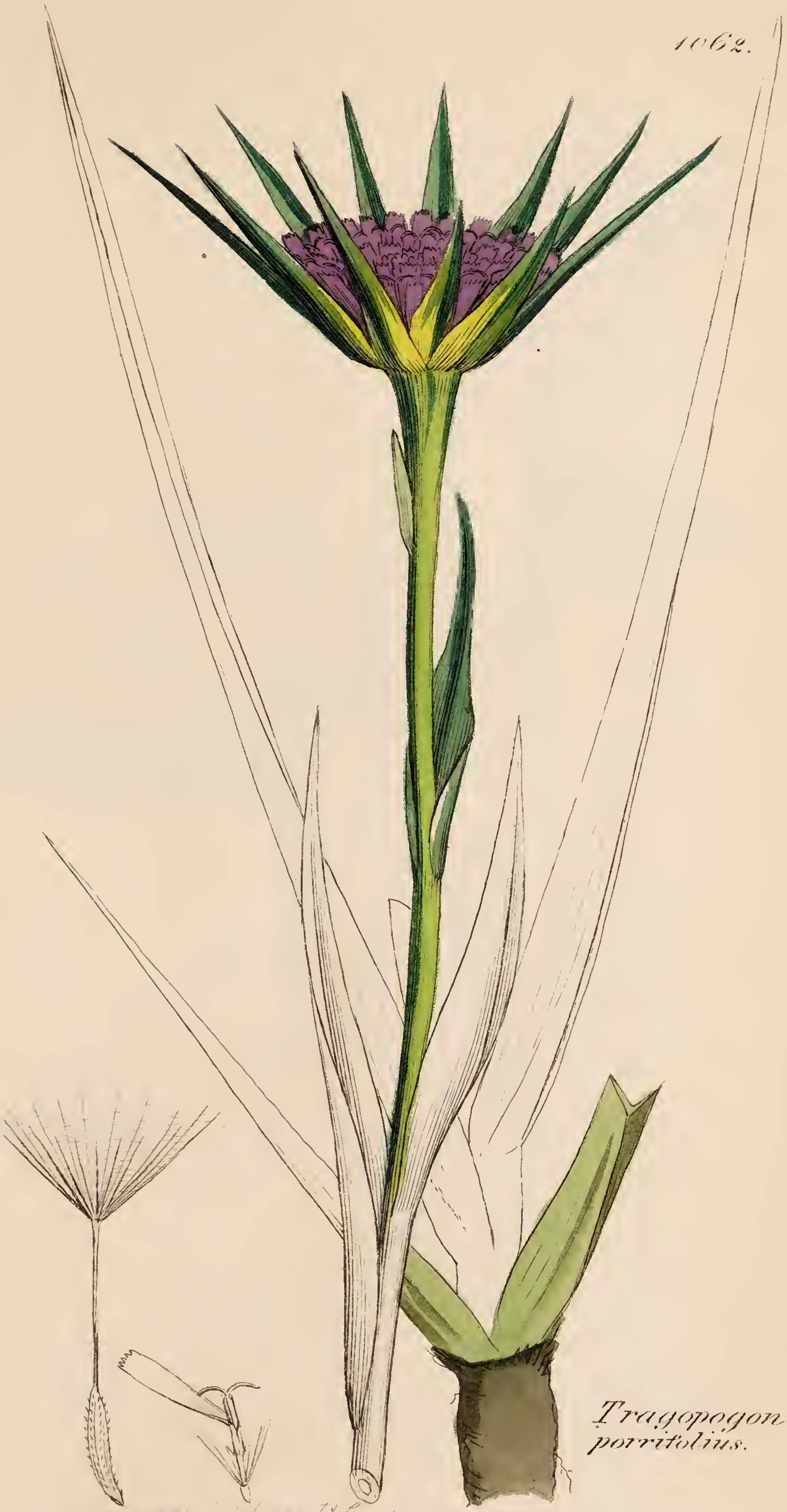


Tragopogon pratensis.

Novr 1. 1797 Published by Js Sowerby London

636

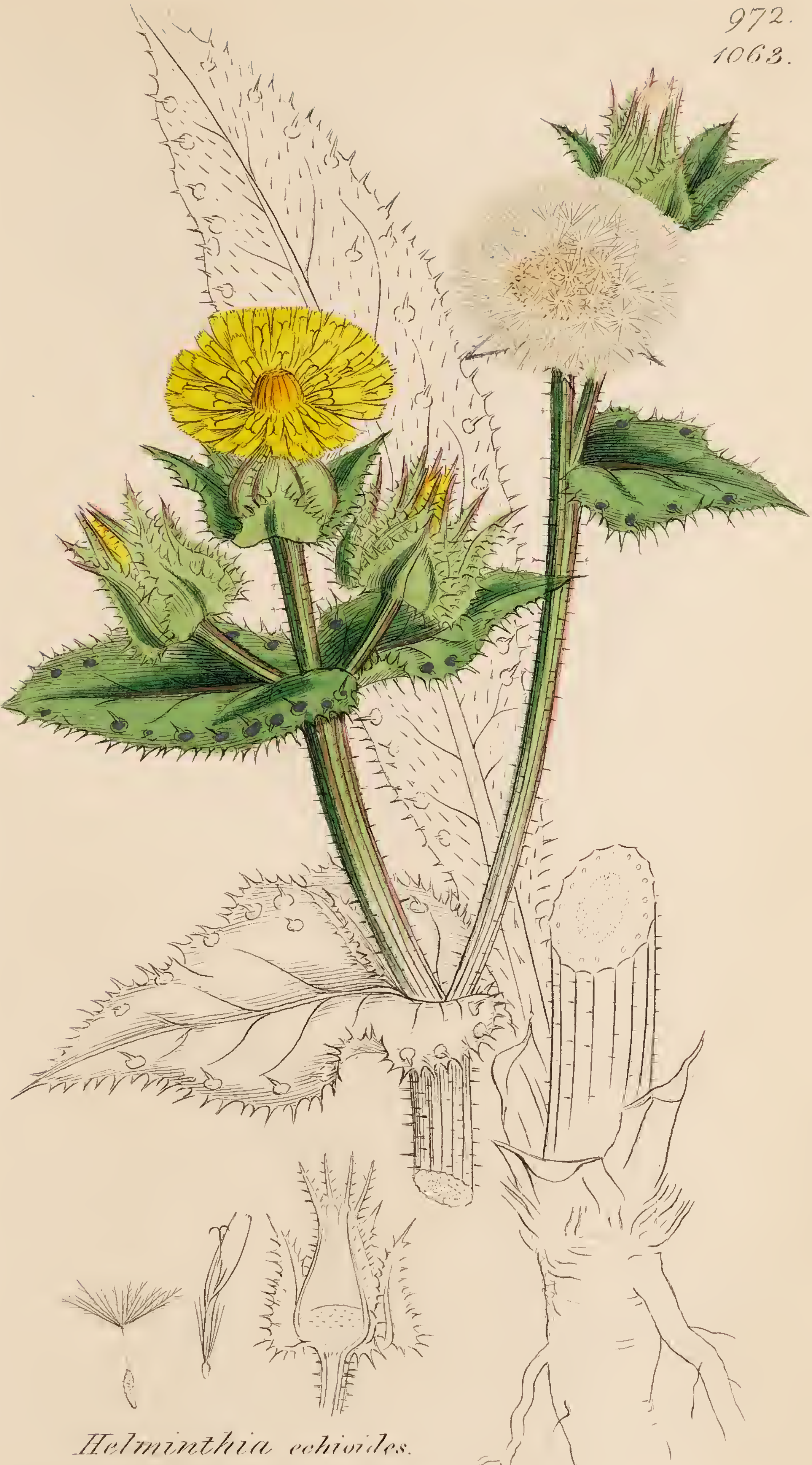
1062.



Tragopogon porrifolius.

[illegible] [illegible] Js. Sowerby

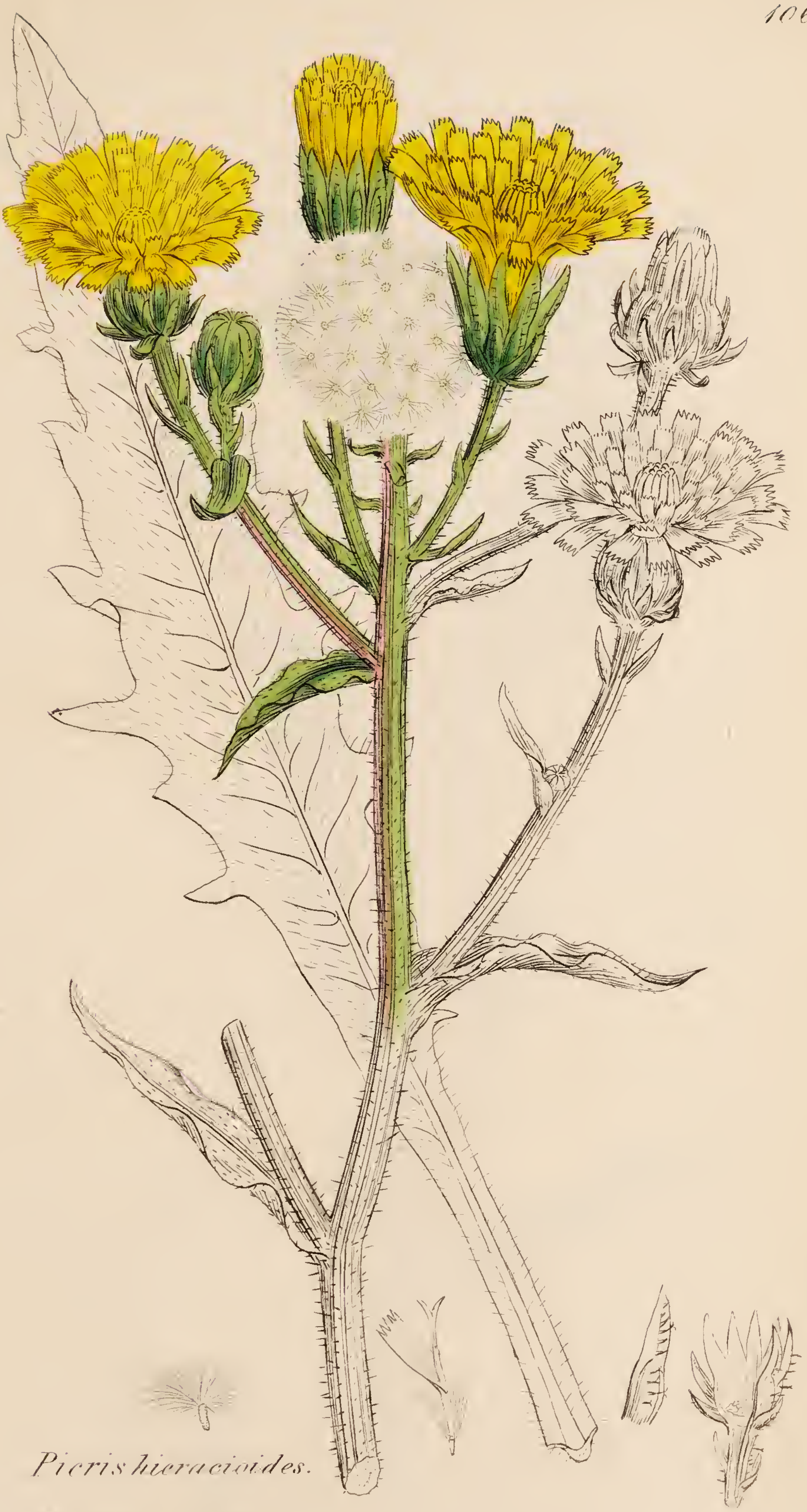
972.
1063.



Helminthia echioides.

[illegible] 1802 Publish'd by J. [illegible]

196.
1064.

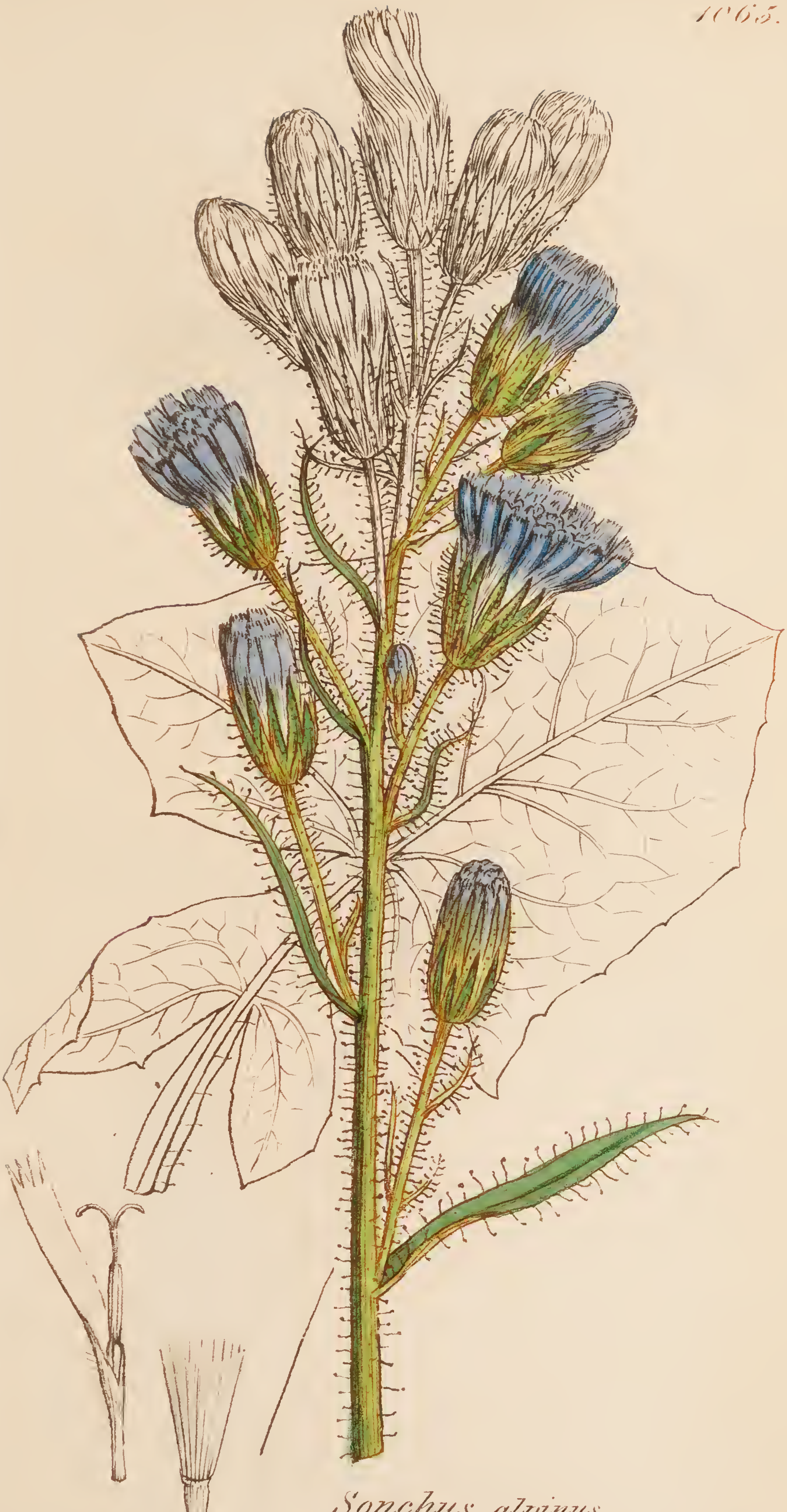


Picris hieracioides.

J. Sowerby [illegible]

2425.

1065.

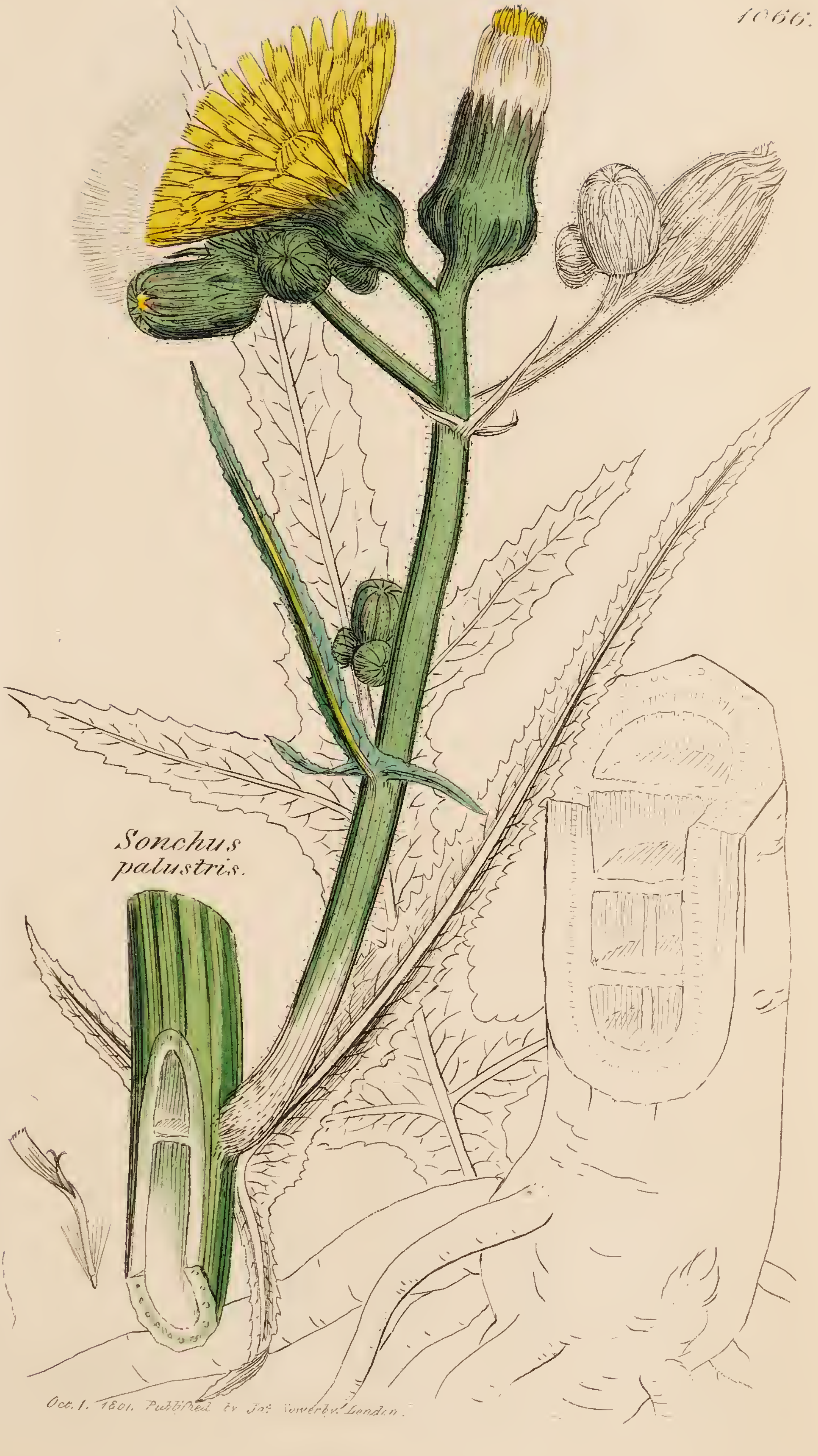


Sonchus alpinus.

June 1 1810 published by Jas. Sowerby London.

935

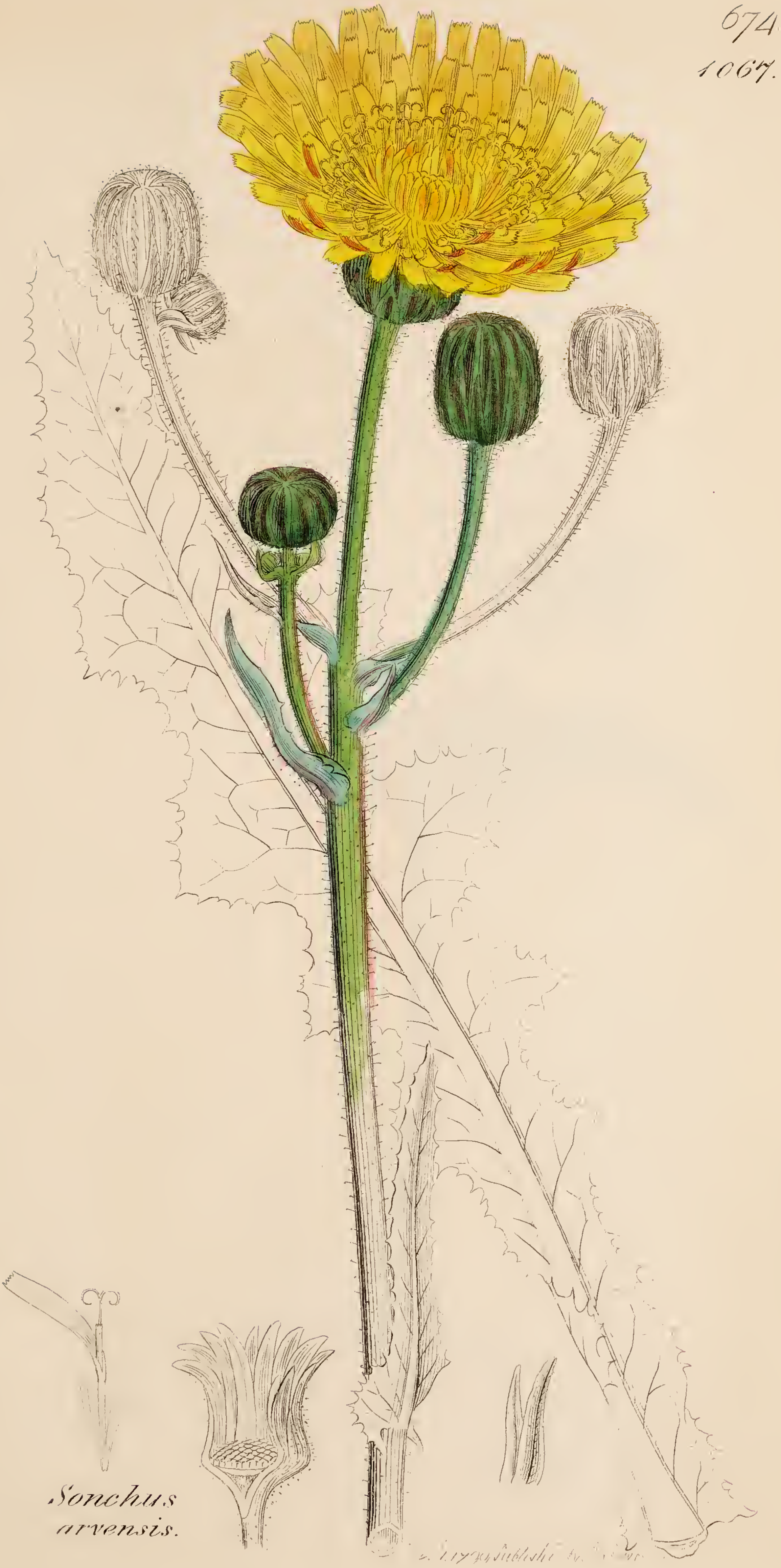
1066.



Sonchus palustris.

Oct. 1. 1801. Publiſhed by Jas. Sowerby London.

674.
1067.

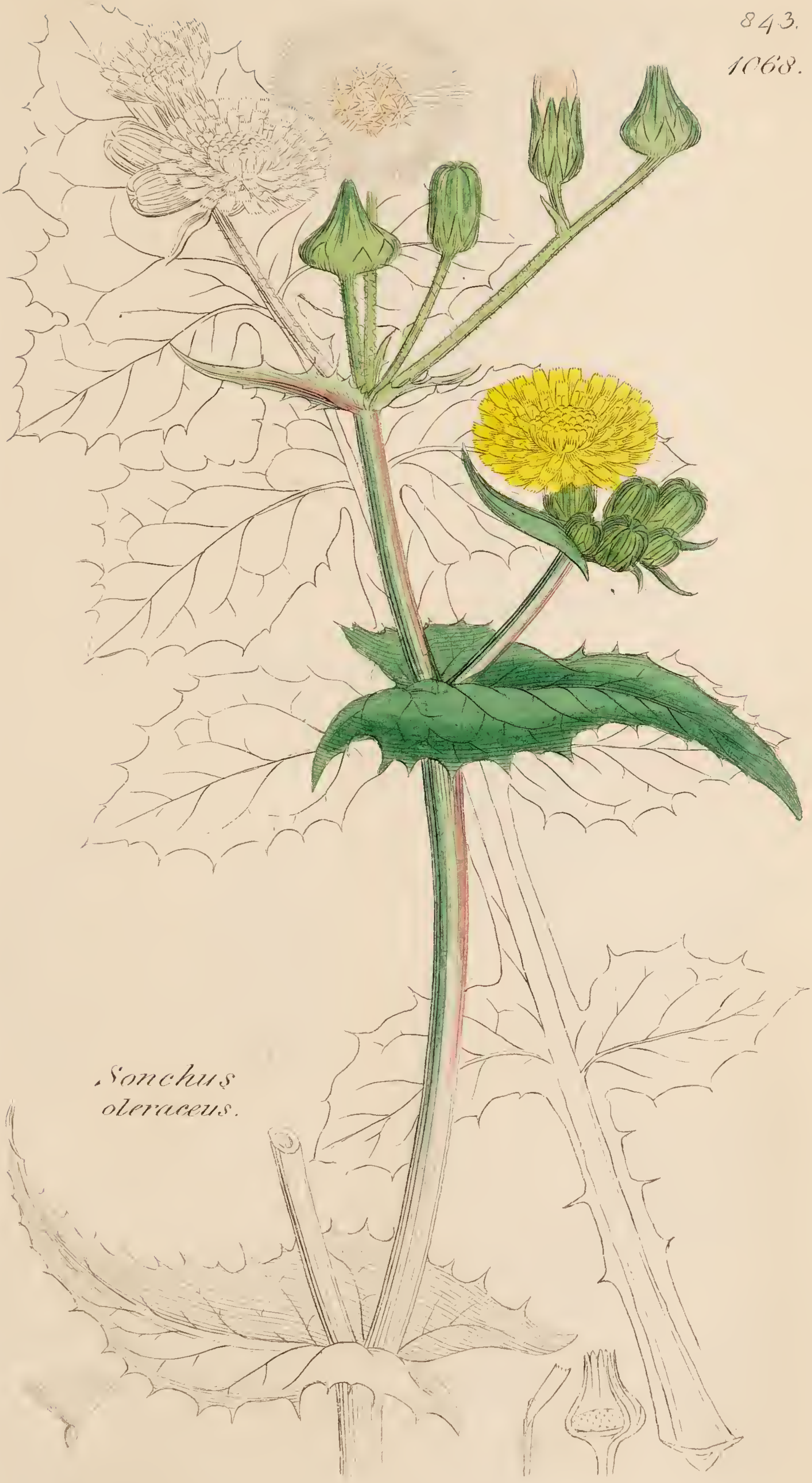


Sonchus arvensis.

[illegible] 1. 1794 Publish'd by [illegible]

843.

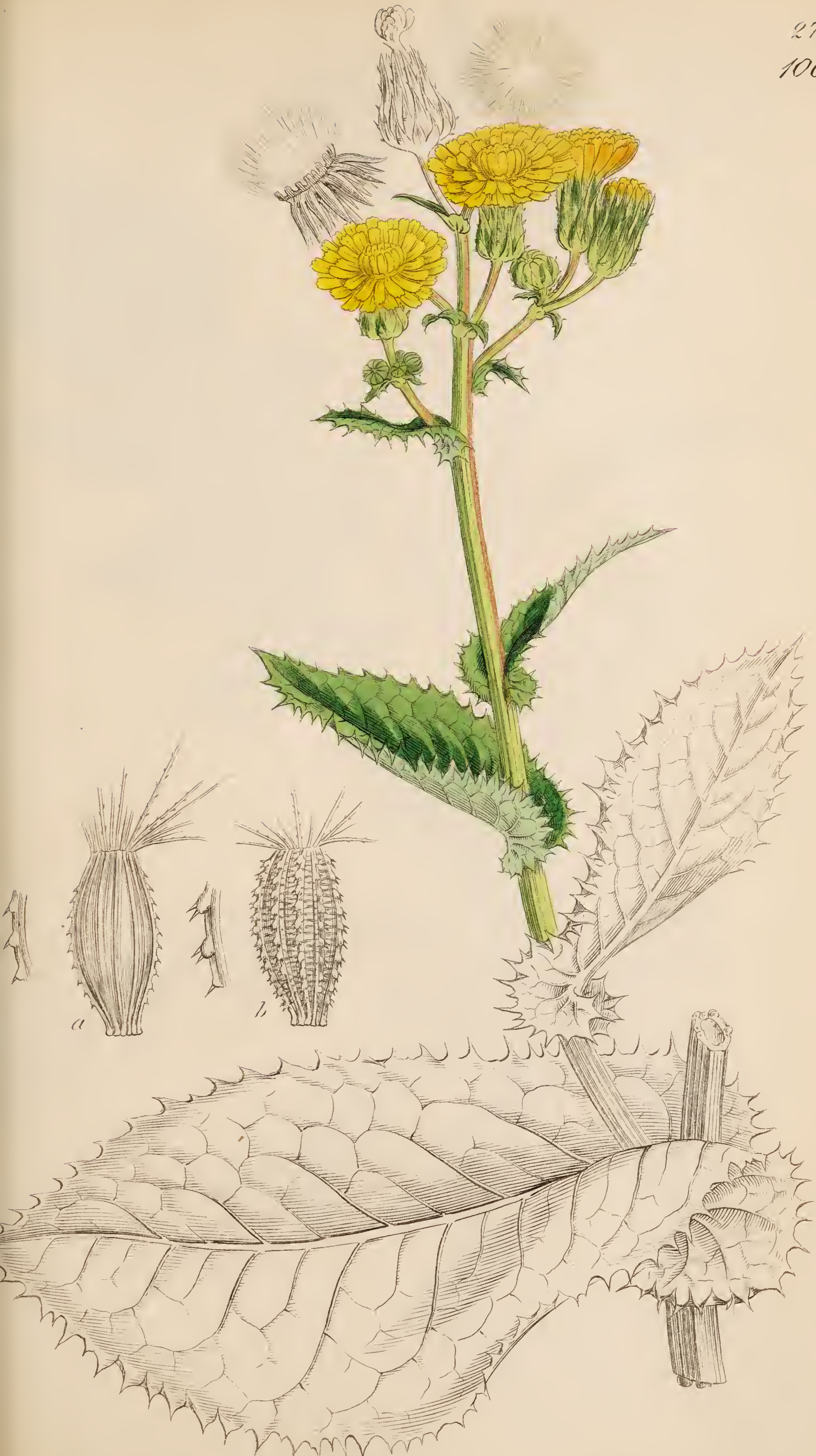
1068.



Sonchus oleraceus.

2765.

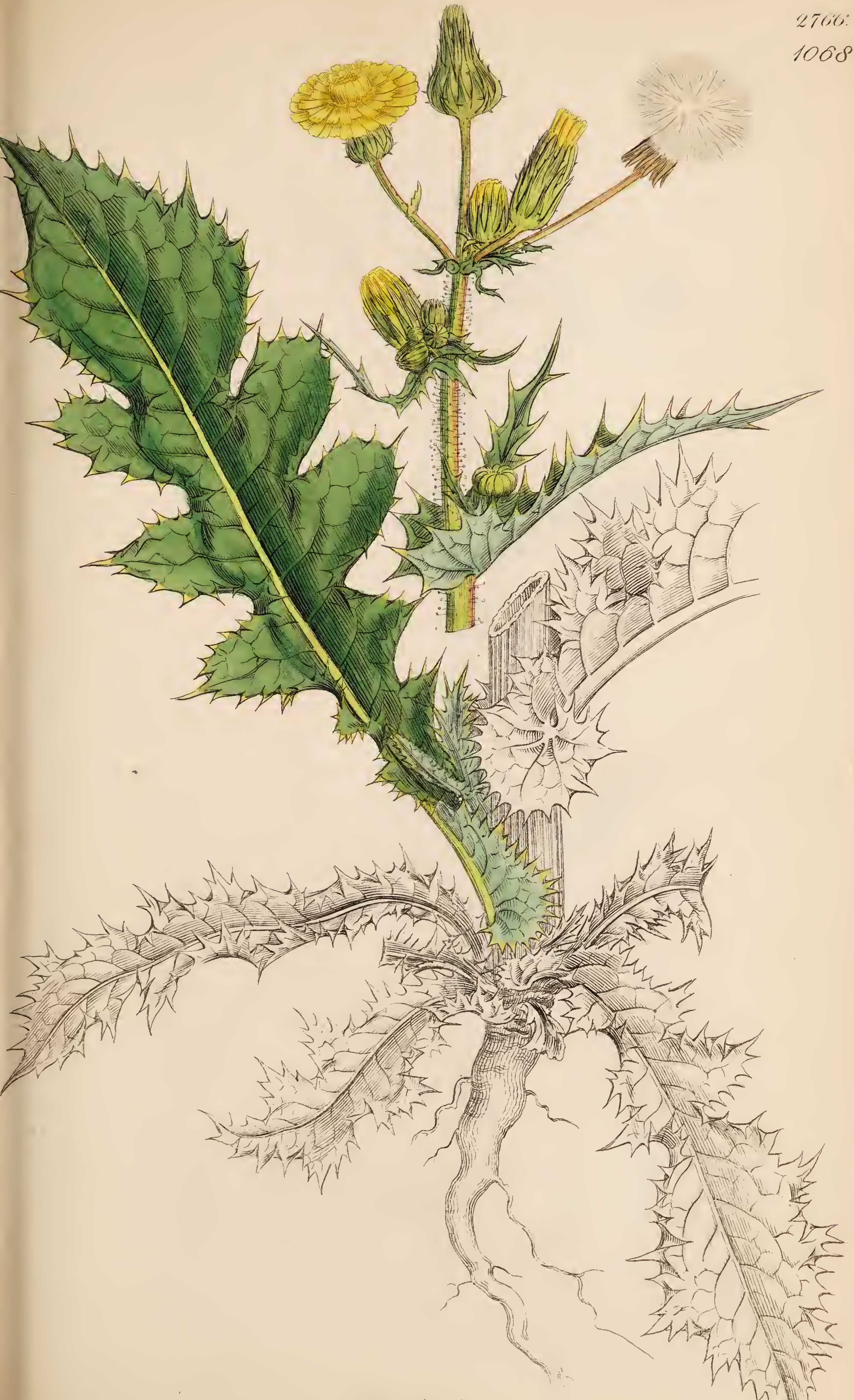
1068*



Feby. 1st 1833

2766.

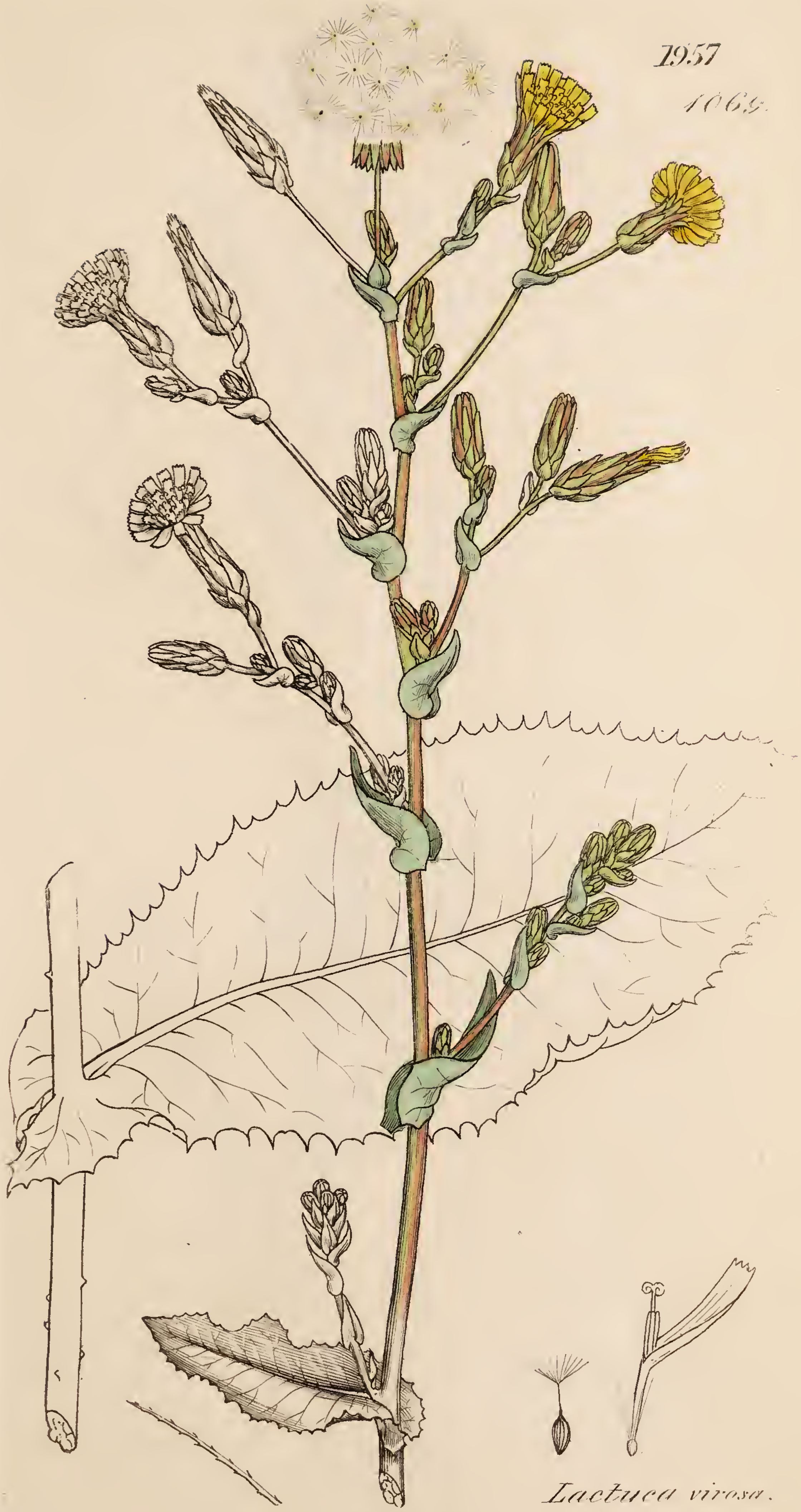
1068**



Feb.y 1.st 1833.

1957

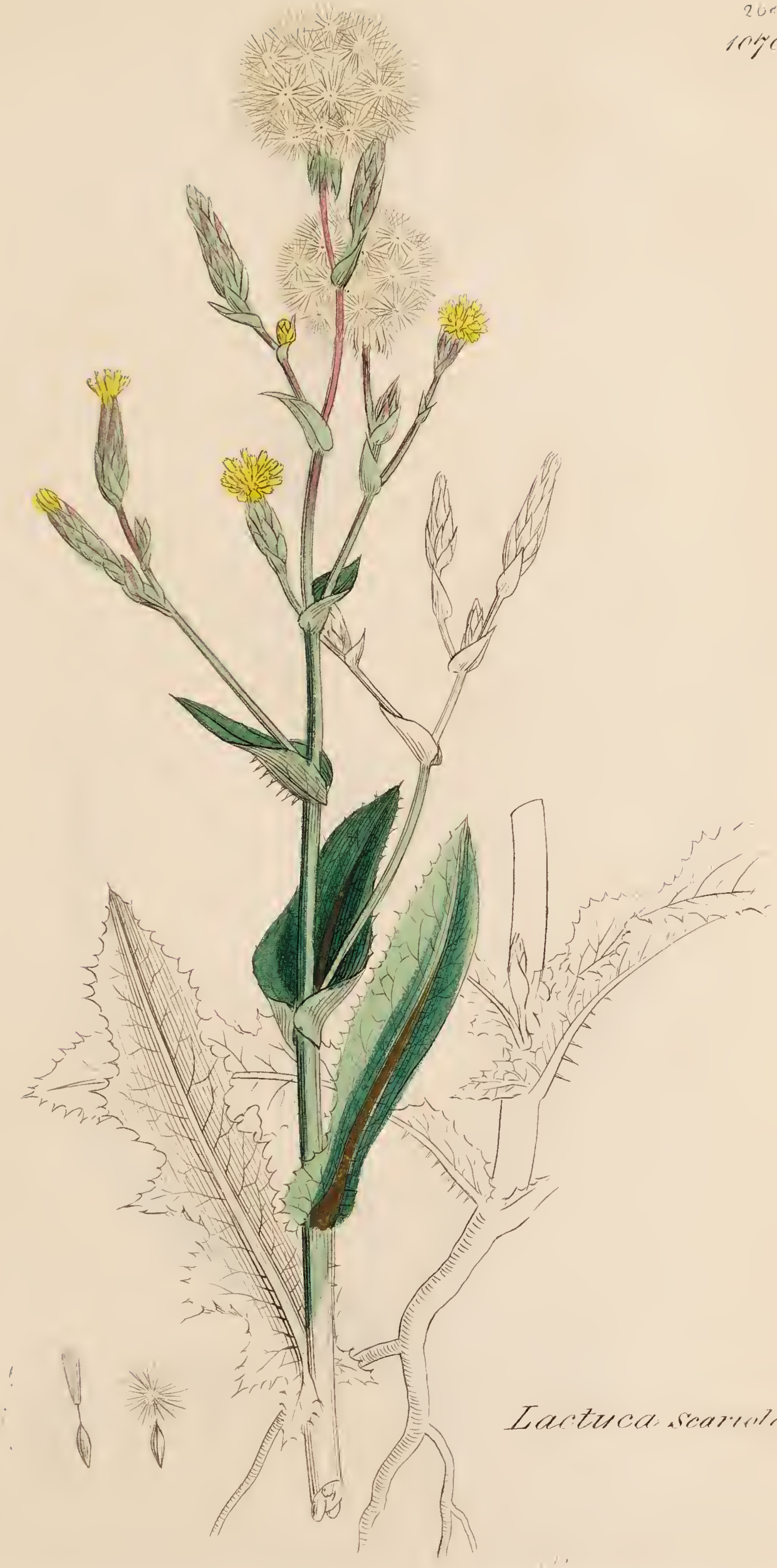
1069.



Lactuca virosa.

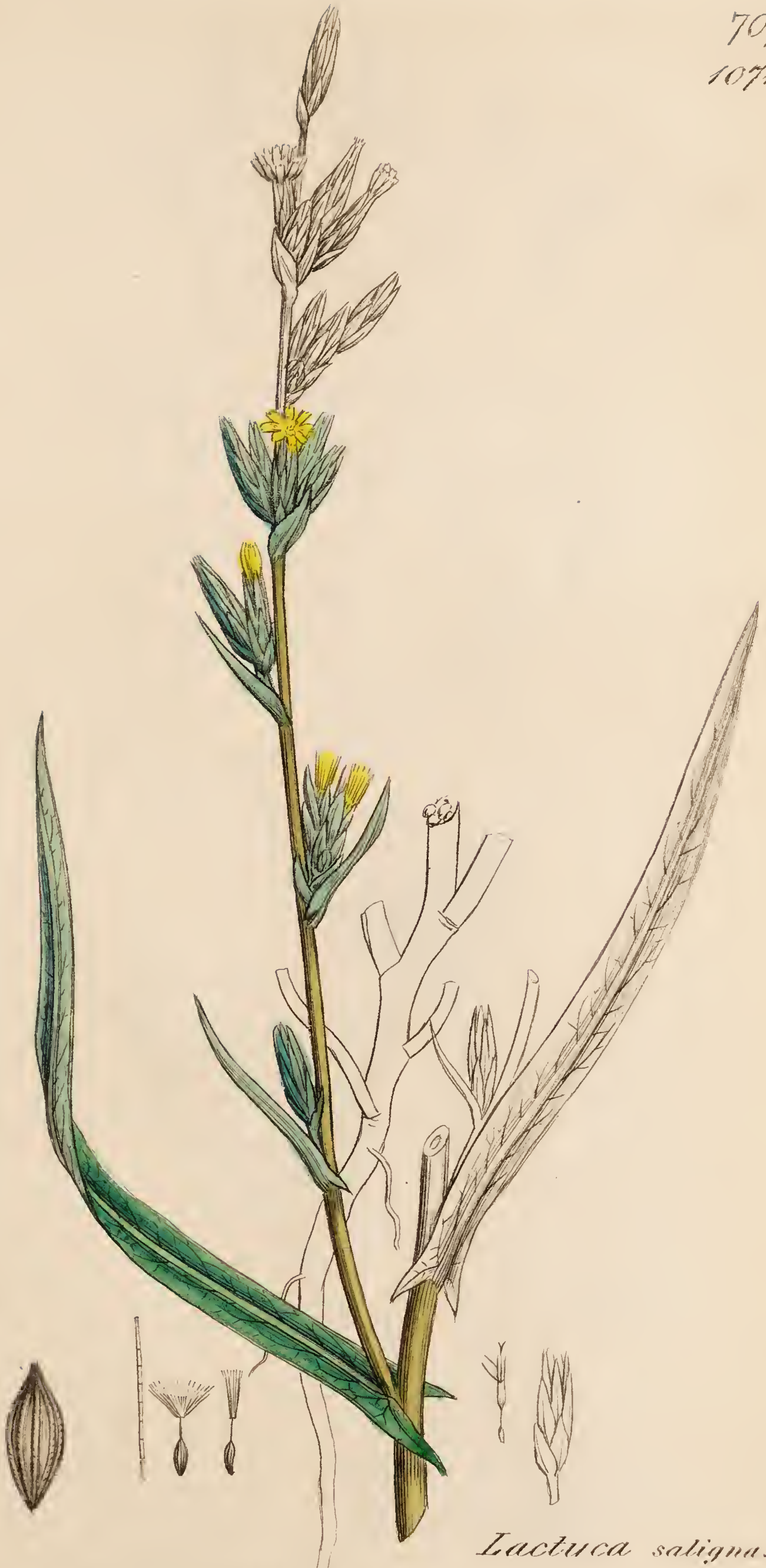
Dec.1.1808. Publish'd by Jas. Sowerby London.

20c
1070.



Lactuca scariola.

707.
1071.

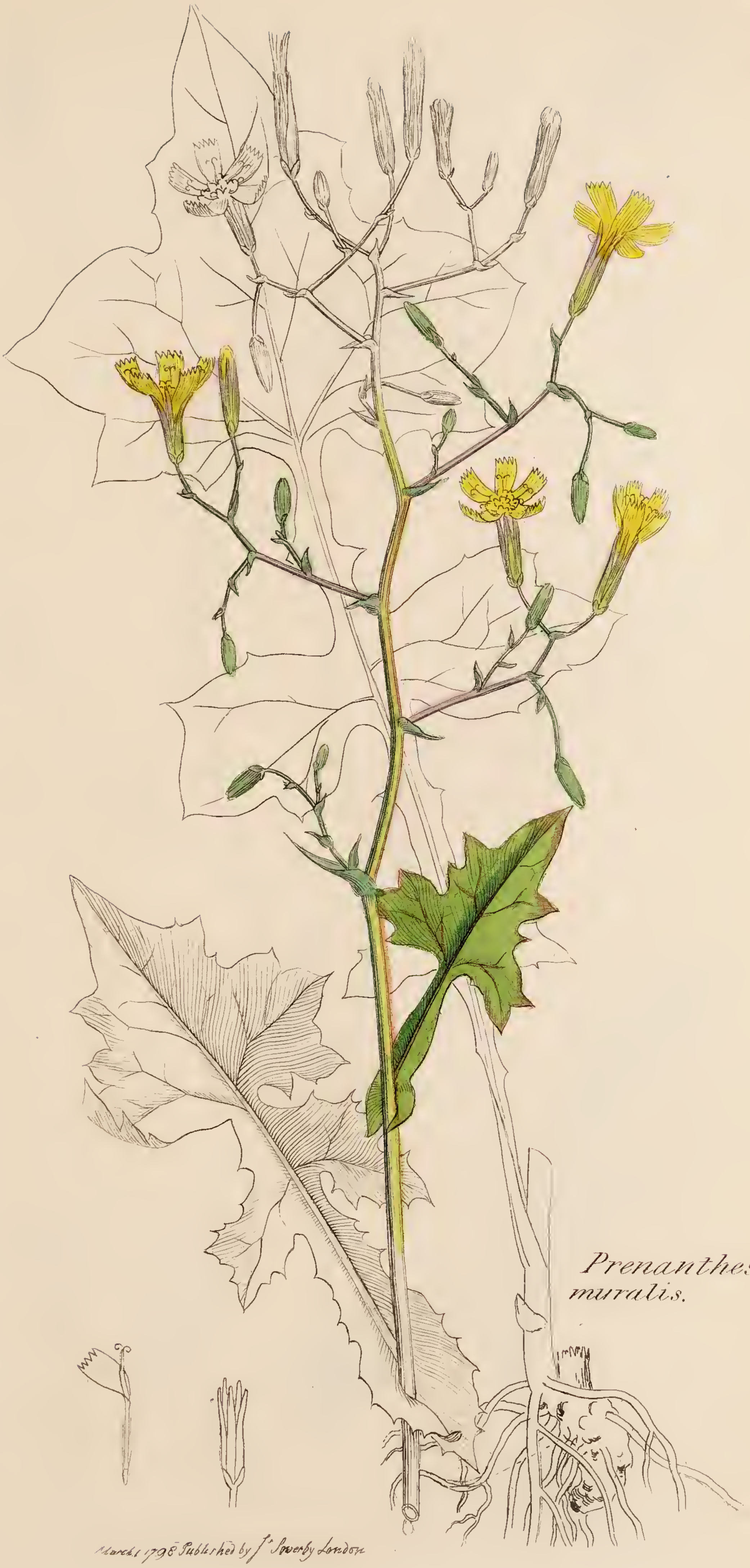


Lactuca saligna.

Dec. 1. 1800 Publish'd by [illegible]

457

1072

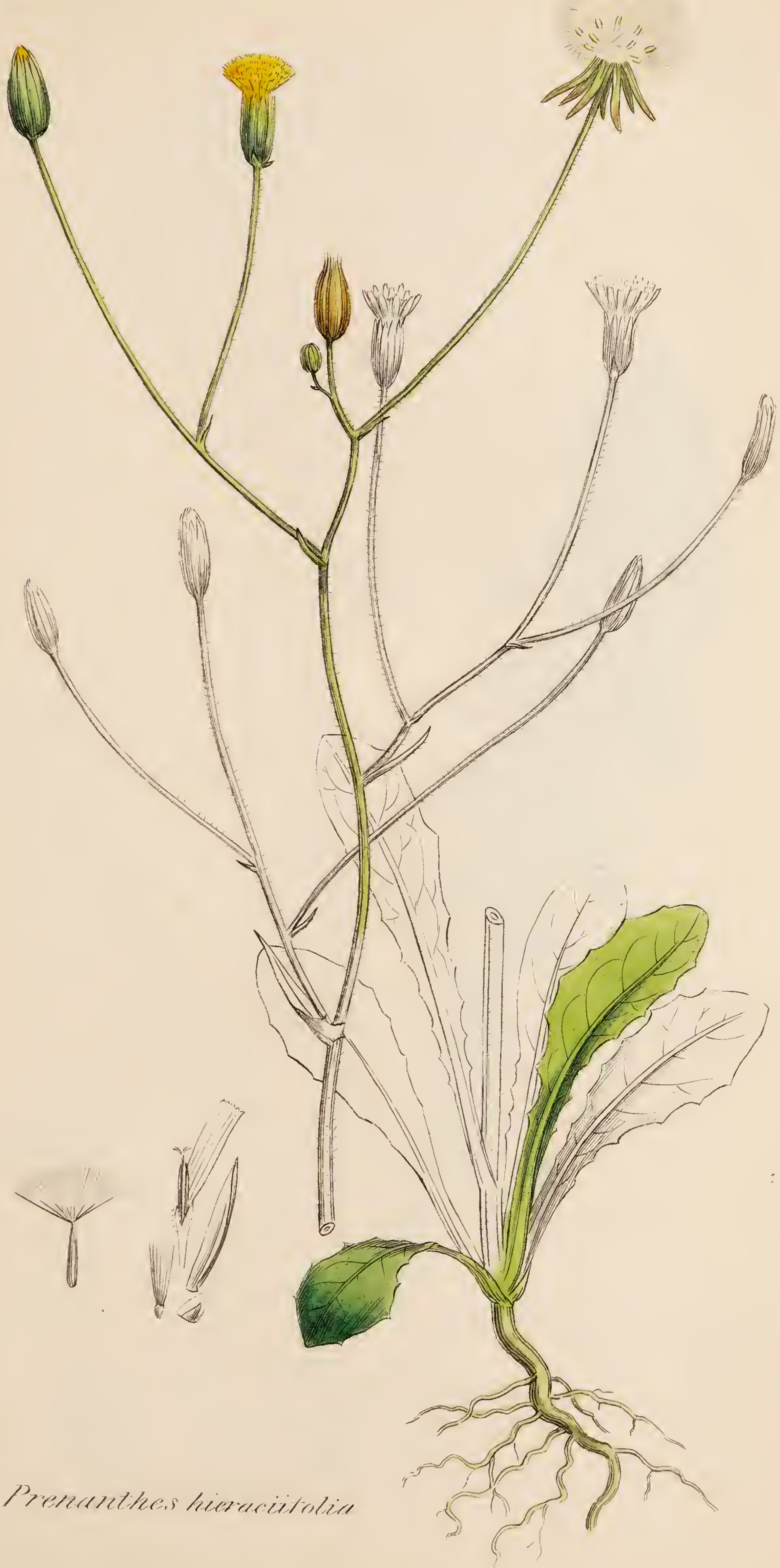


Prenanthes muralis.

March 1 1798 Published by J^s Sowerby London

2325

1073.

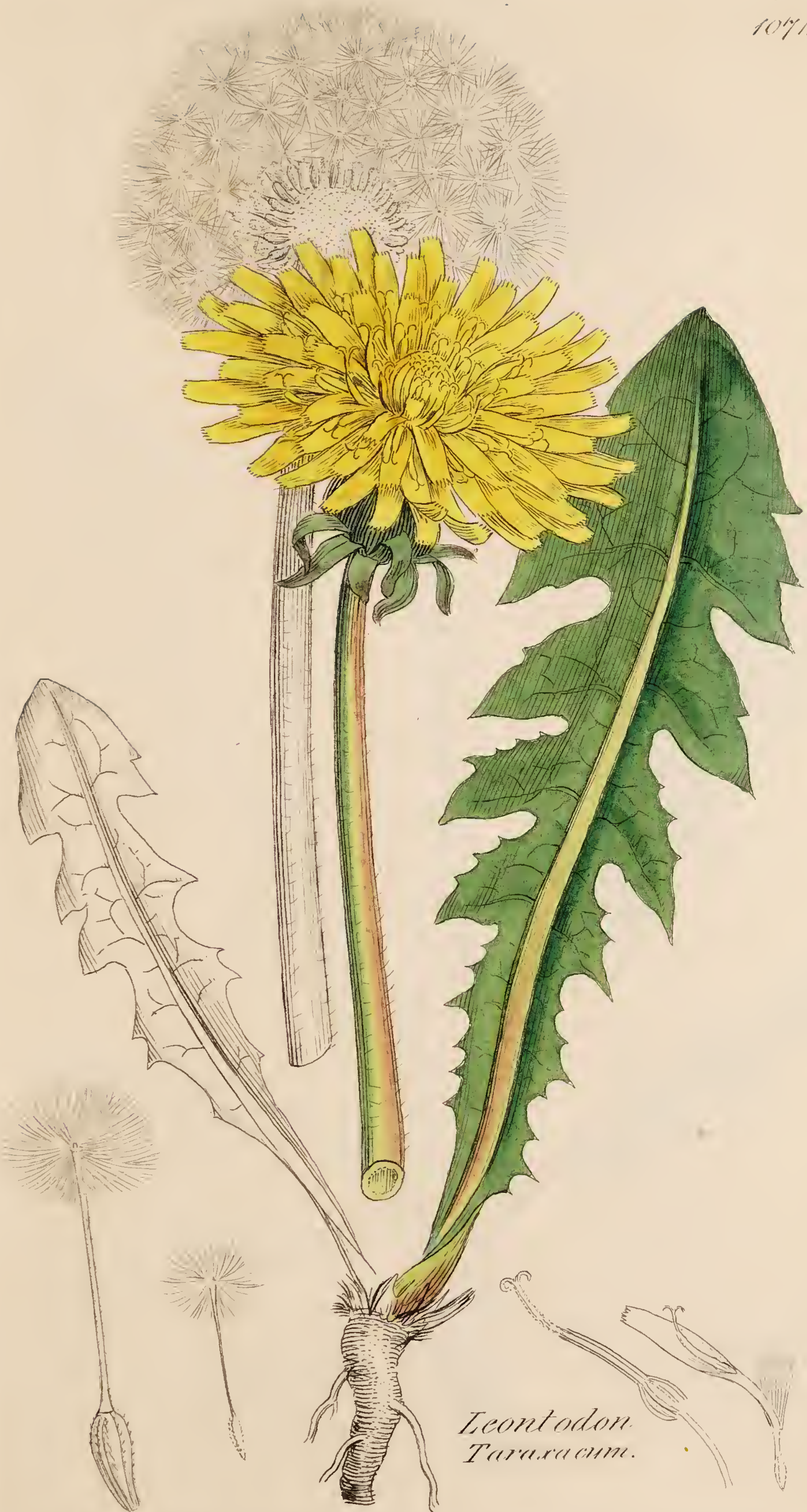


Prenanthes hieraciifolia

[illegible] published by Jas. Sowerby London.

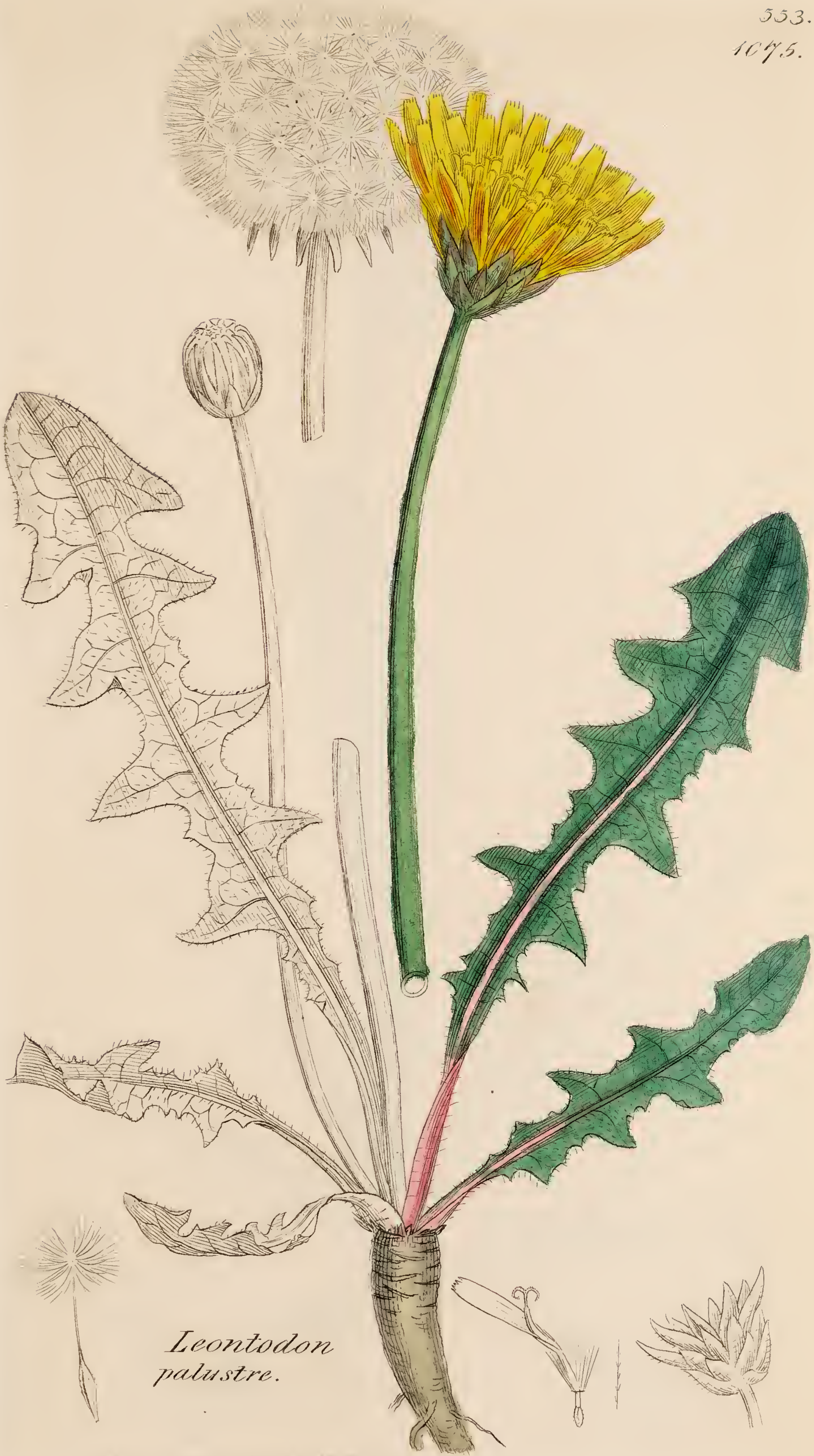
510

1074



Leontodon
Taraxacum.

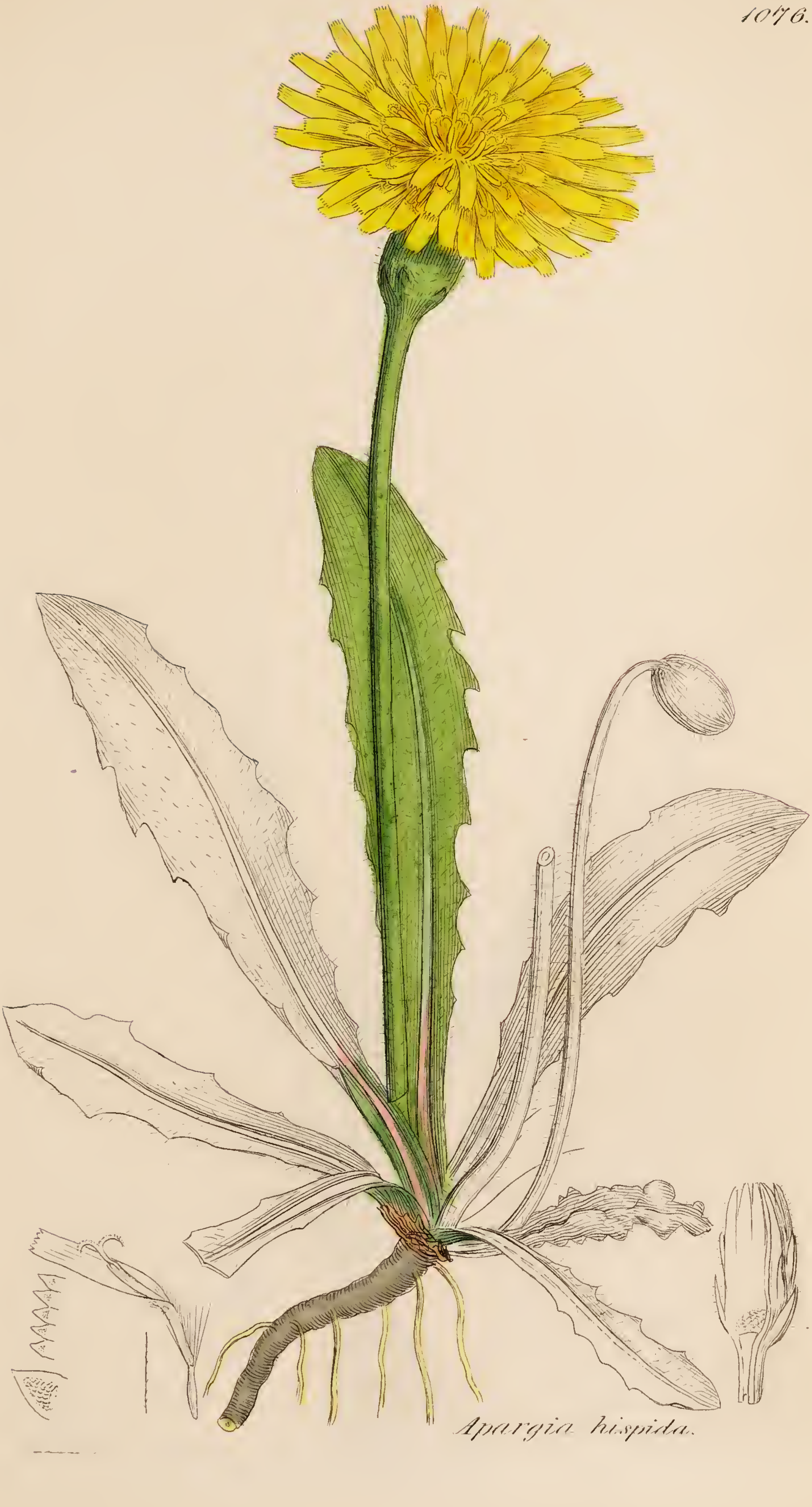
Nov 1 1798 Published by J^s Sowerby London



Leontodon
palustre.

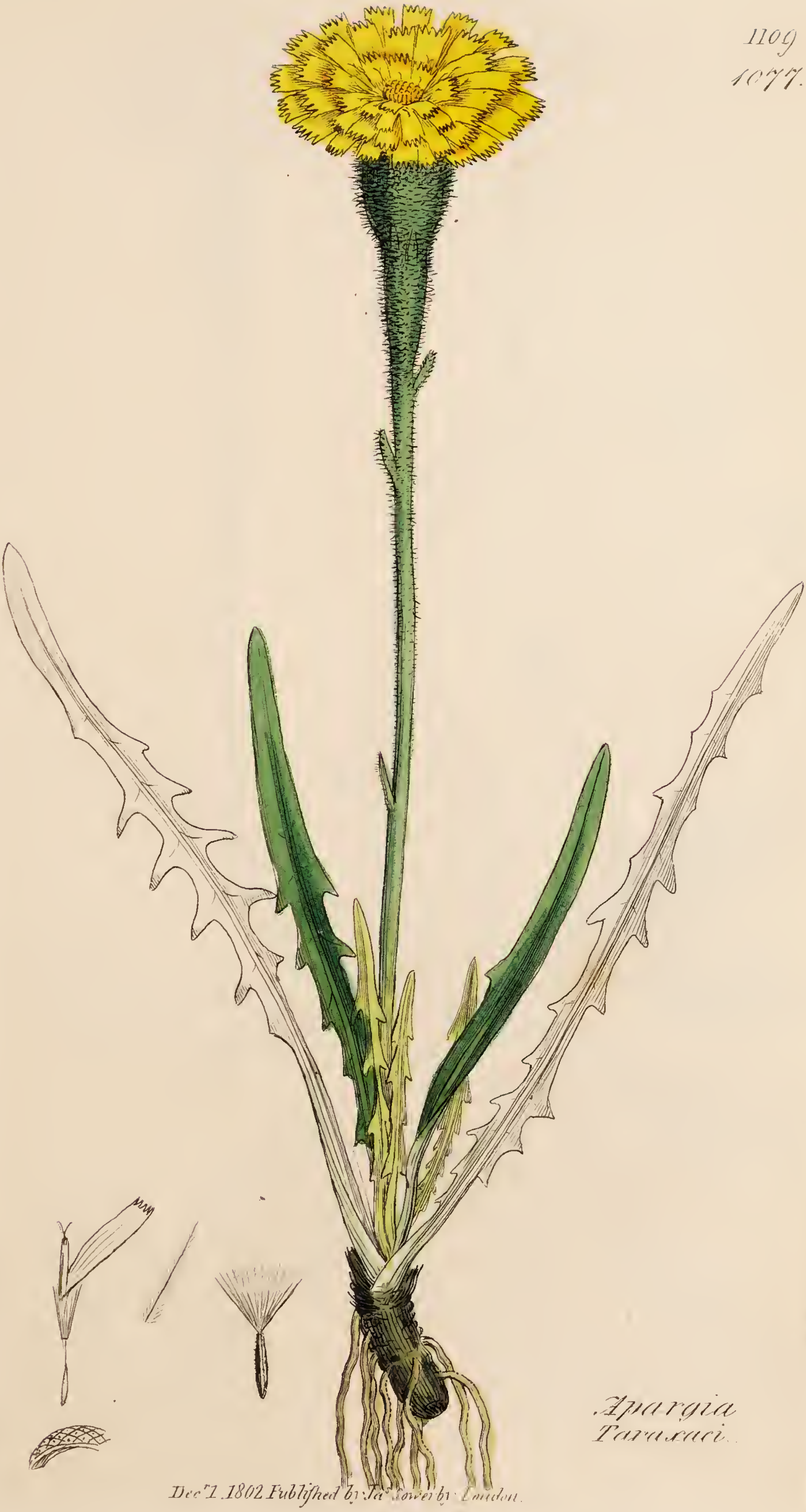
[illegible]

554
1076.



Apargia hispida.

1109
1077.

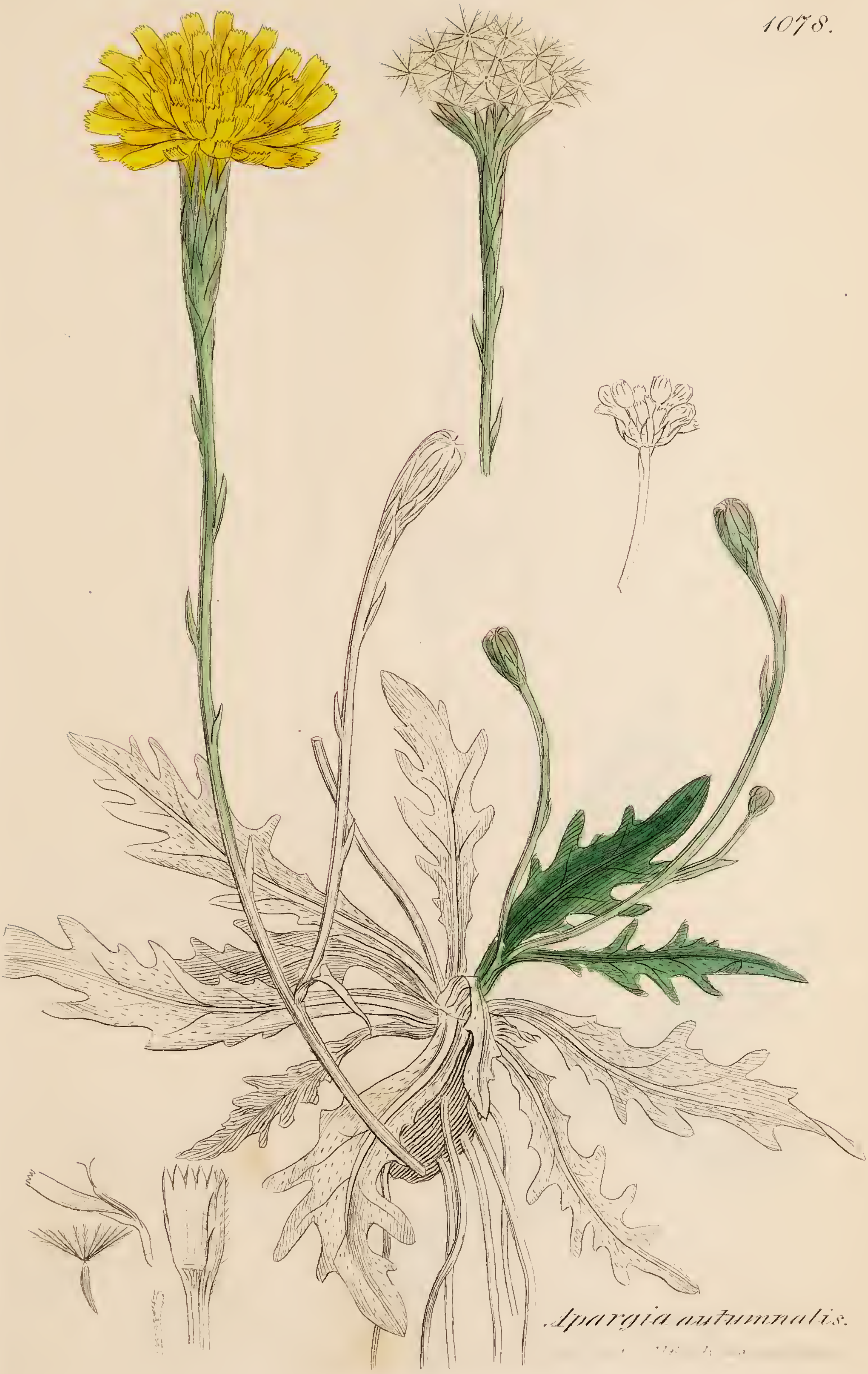


Apargia
Taraxaci.

Decr 1. 1802 Publiſhed by Jas Sowerby London

830

1078.

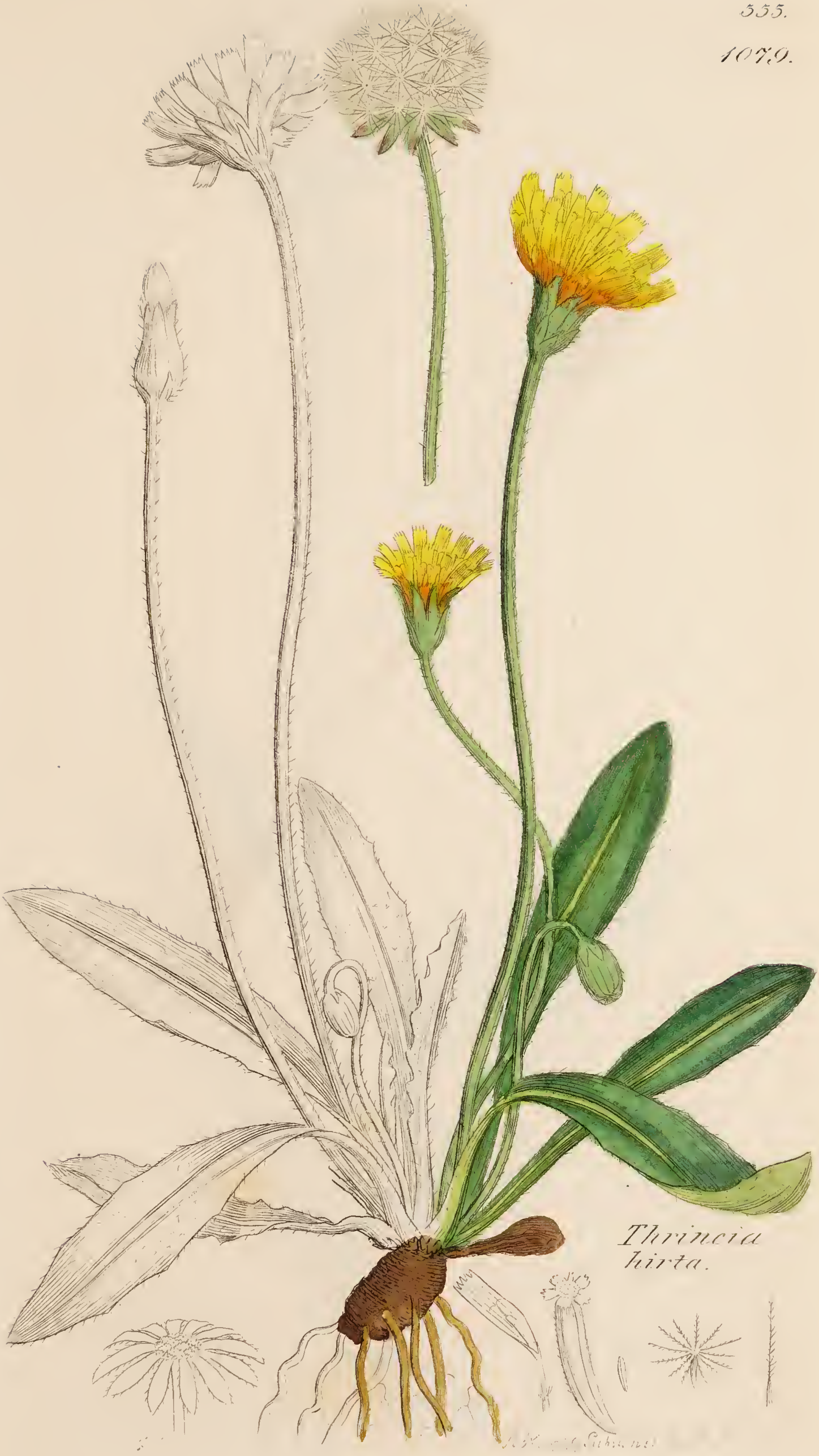


Apargia autumnalis.

[illegible]

555.

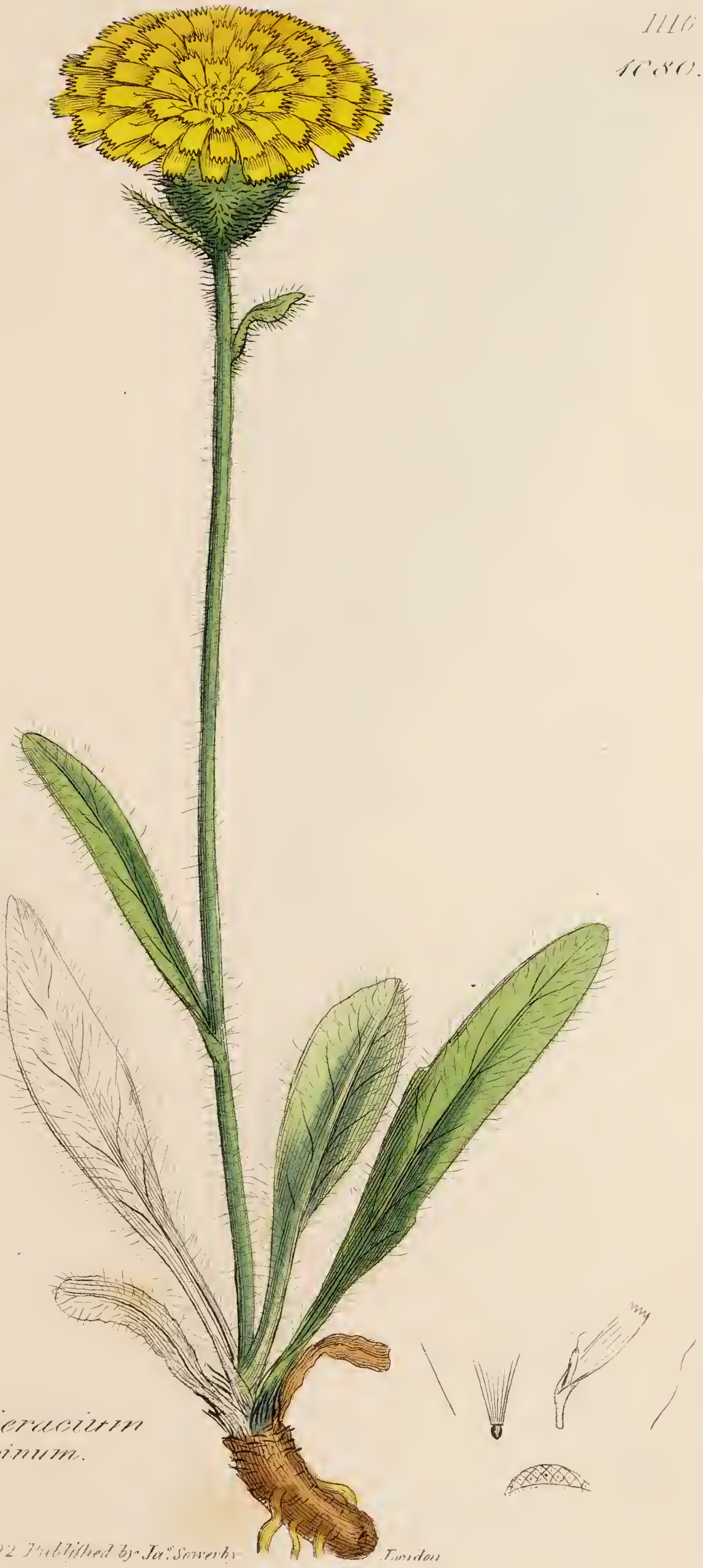
1079.



Thrincia hirta.

1116

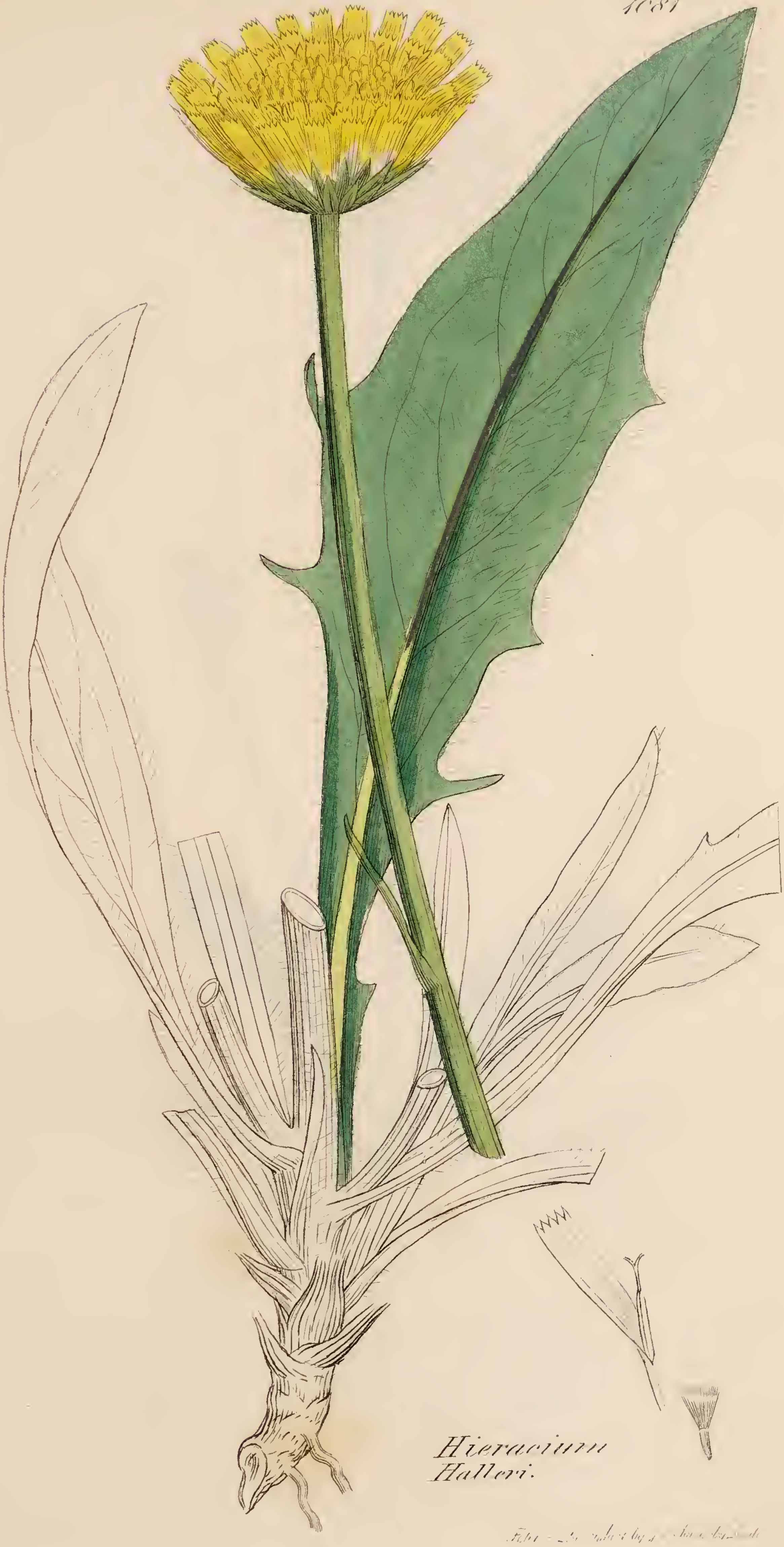
1080.



Hieracium alpinum.

Dec.r 1 1802 Publiſhed by Ja.s Sowerby London

1081 2379.

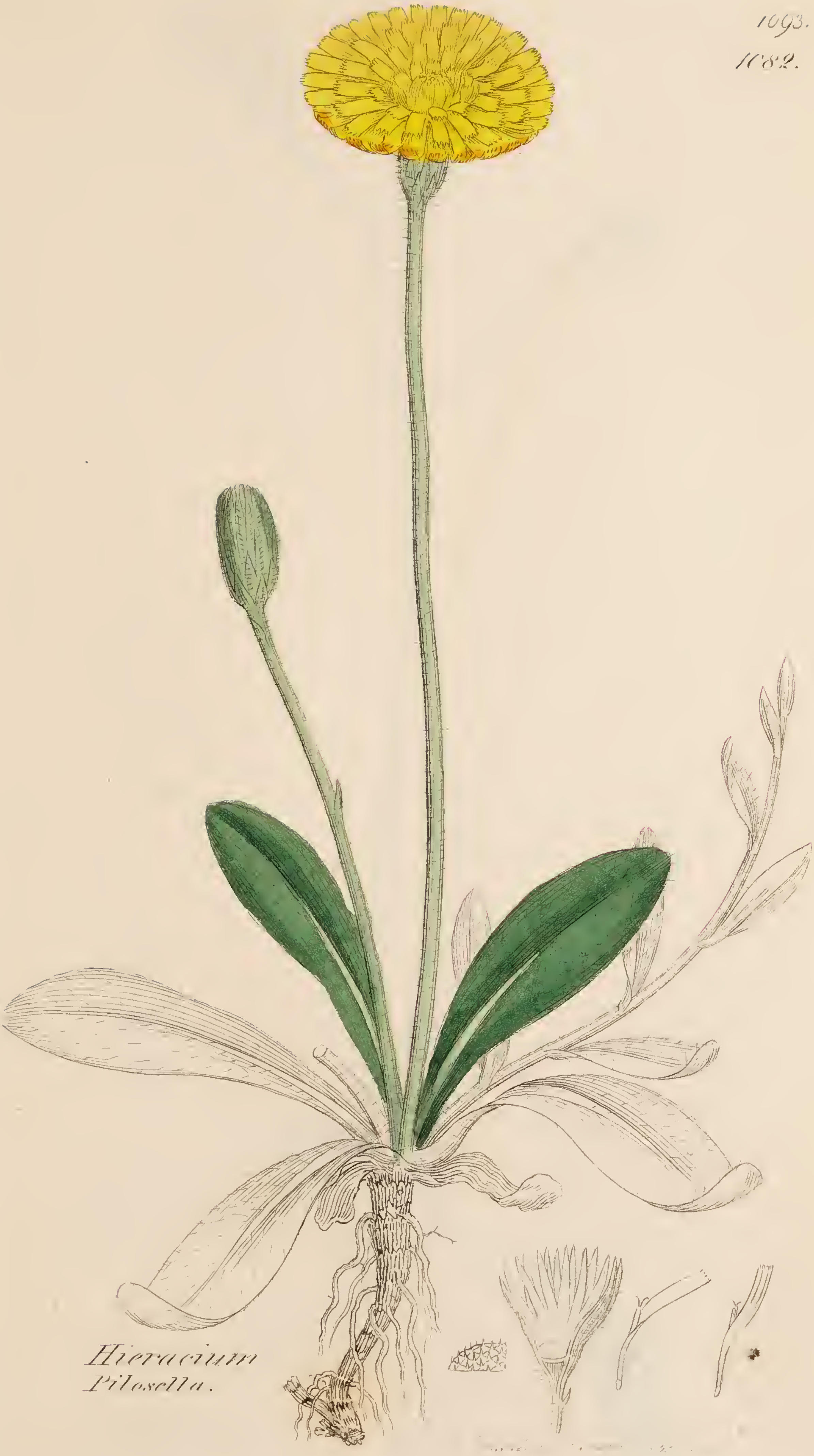


Hieracium Halleri.

[illegible] by [illegible]

1093.

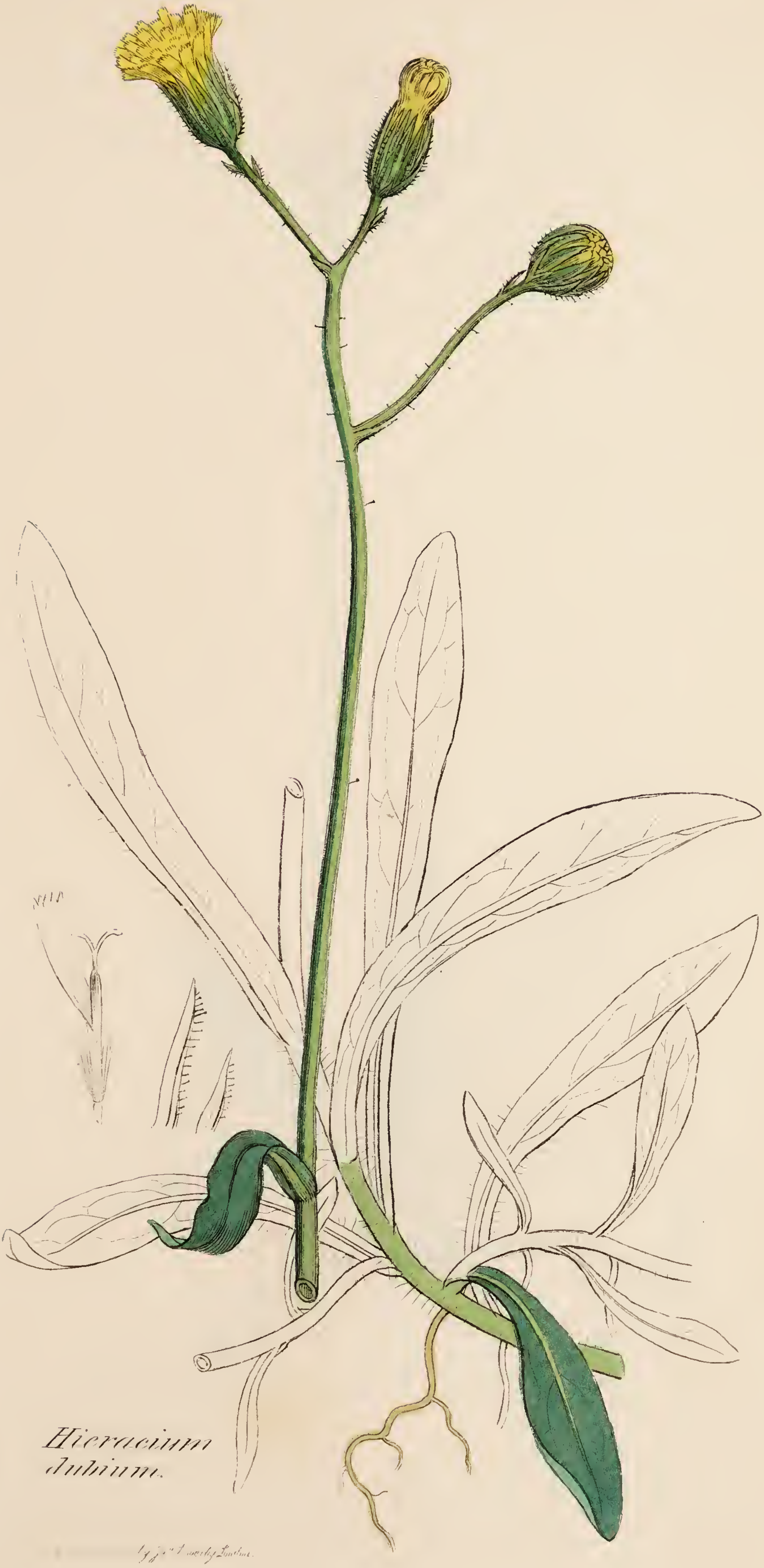
1082.



Hieracium Pilosella.

2332.

1083.

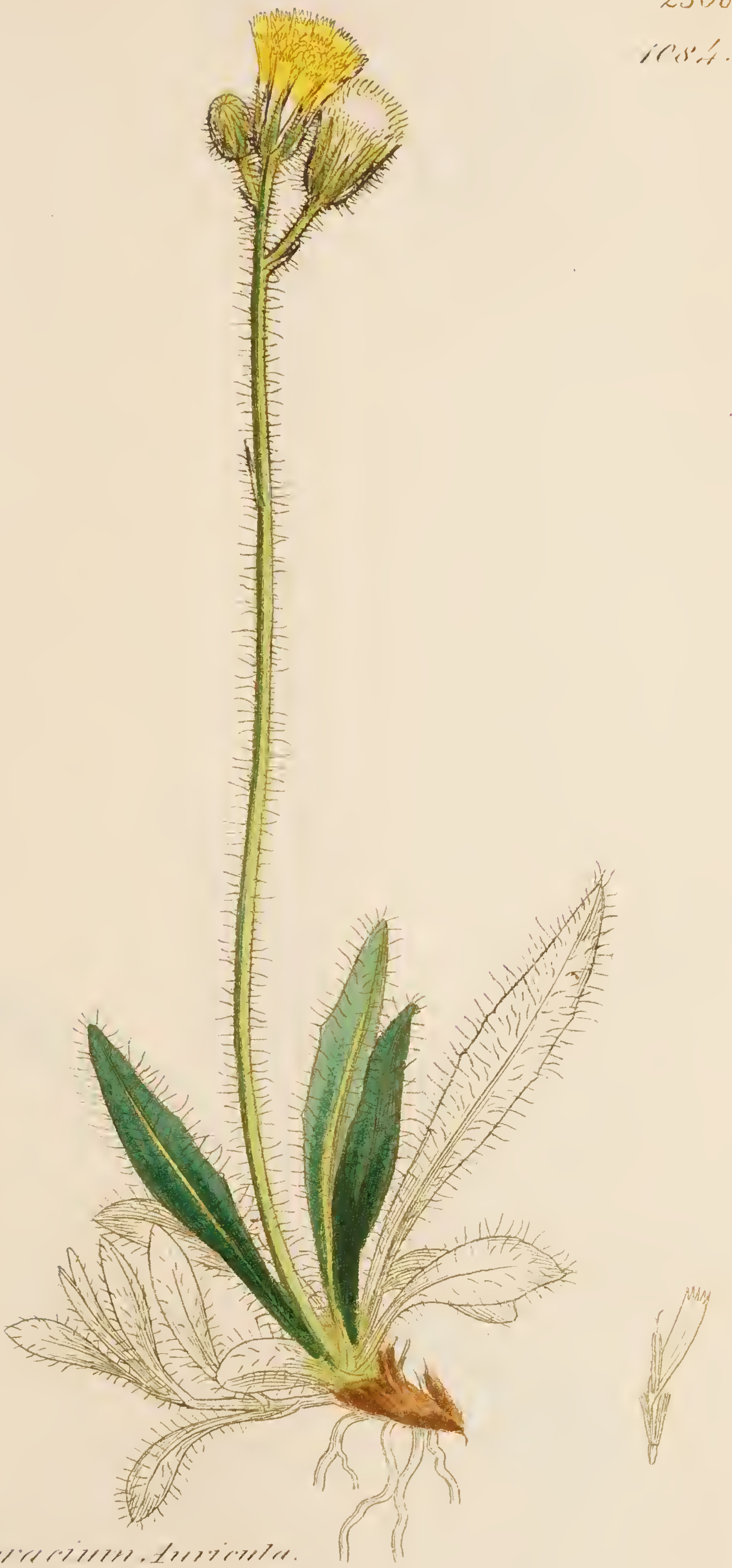


Hieracium dubium.

by J. de C. Sowerby London.

2368

1084.

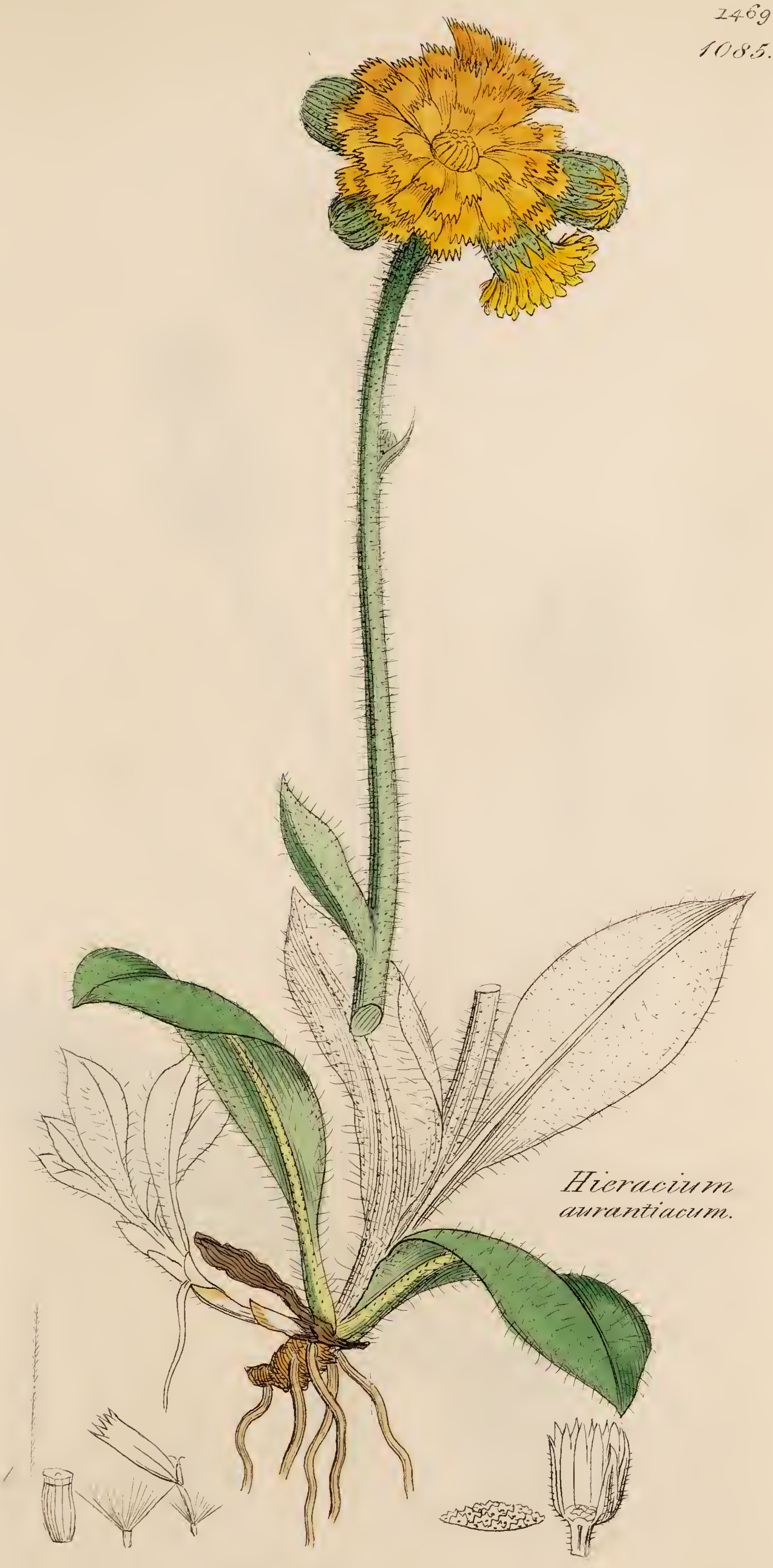


Hieracium Auricula.

Published by J. Sowerby London.

1469

1085.

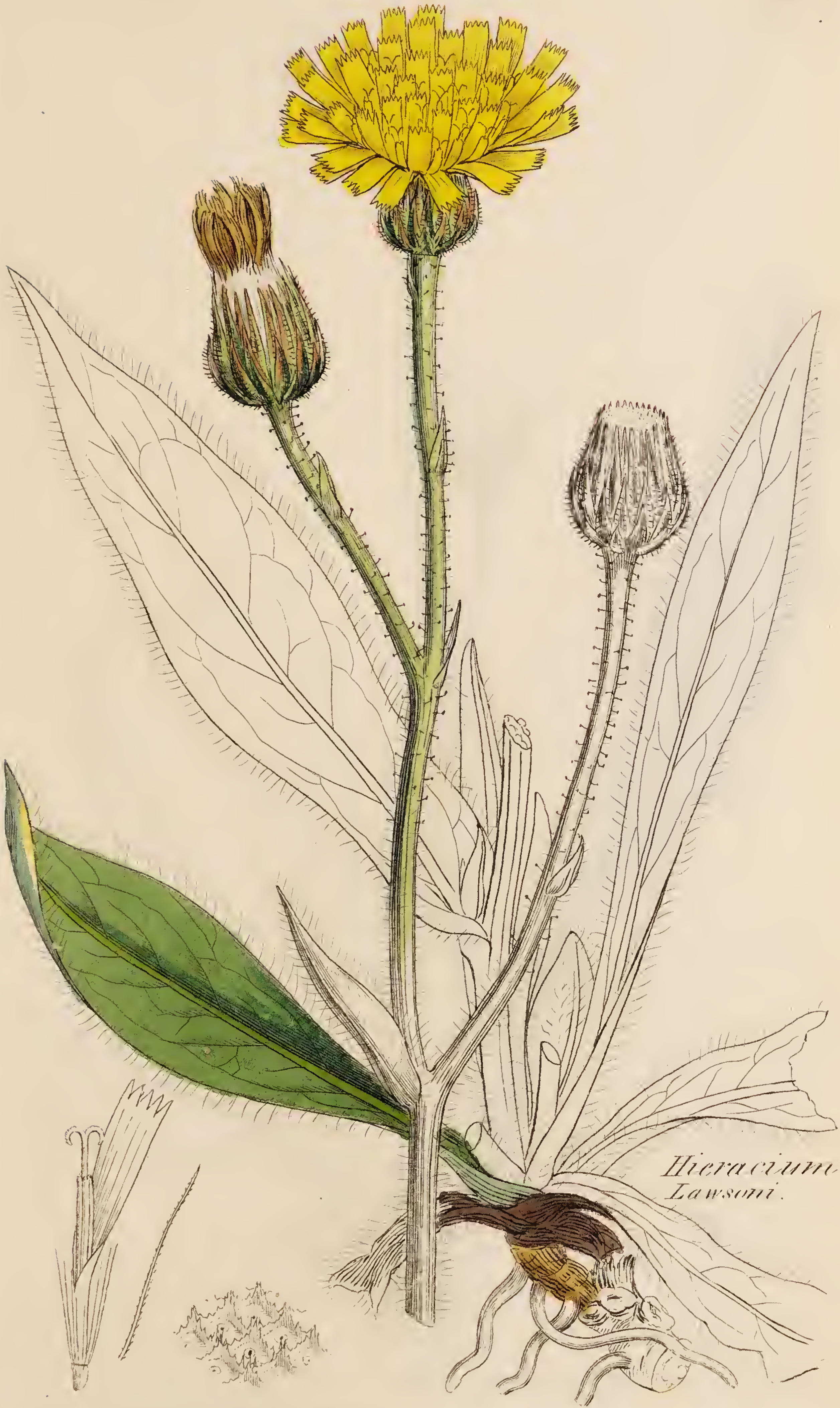


Hieracium aurantiacum.

June 1. 1805. Published by Jas. Sowerby, London.

2083.

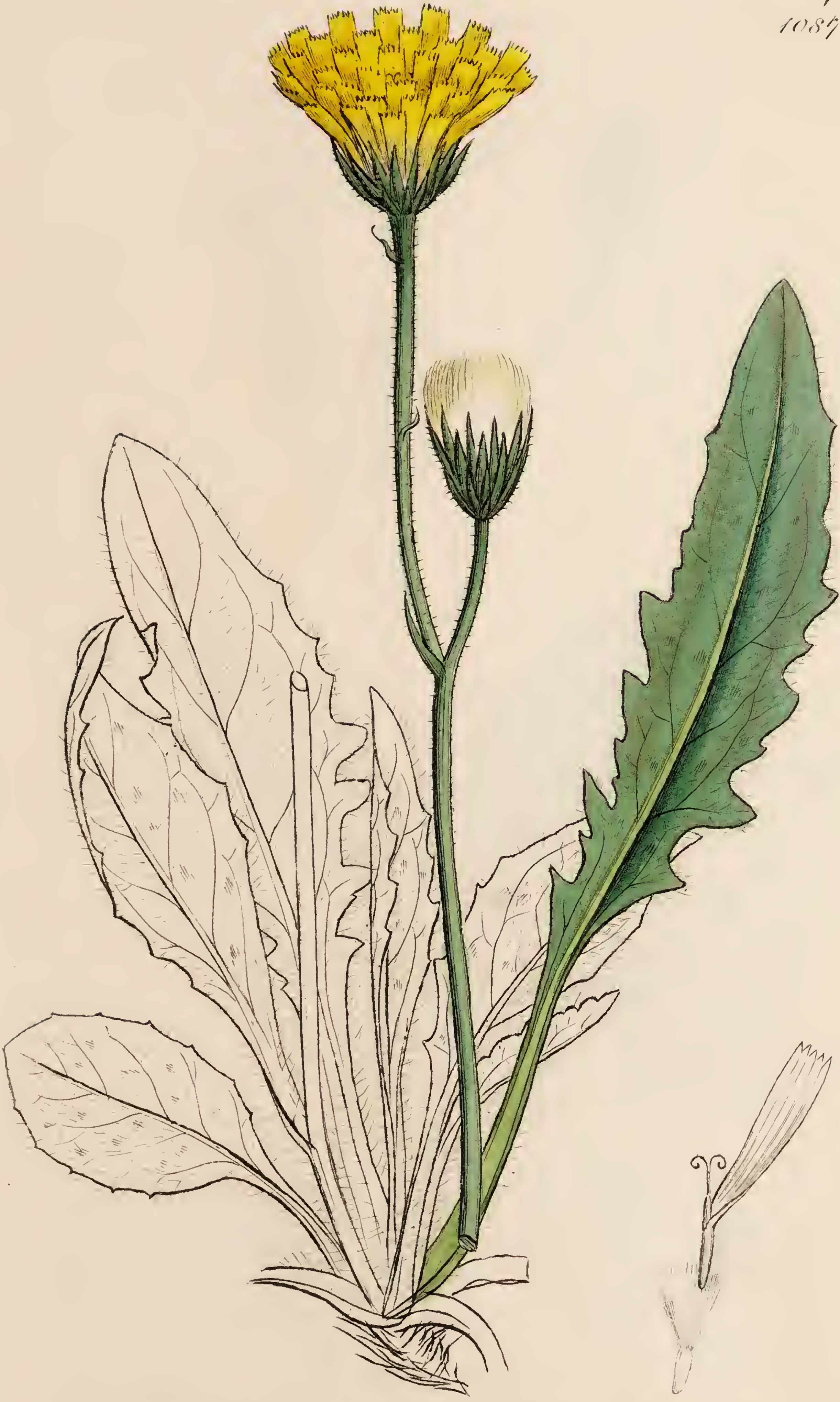
1086.



Hieracium
Lawsoni.

Nov 1 1809 published by Js. Sowerby London.

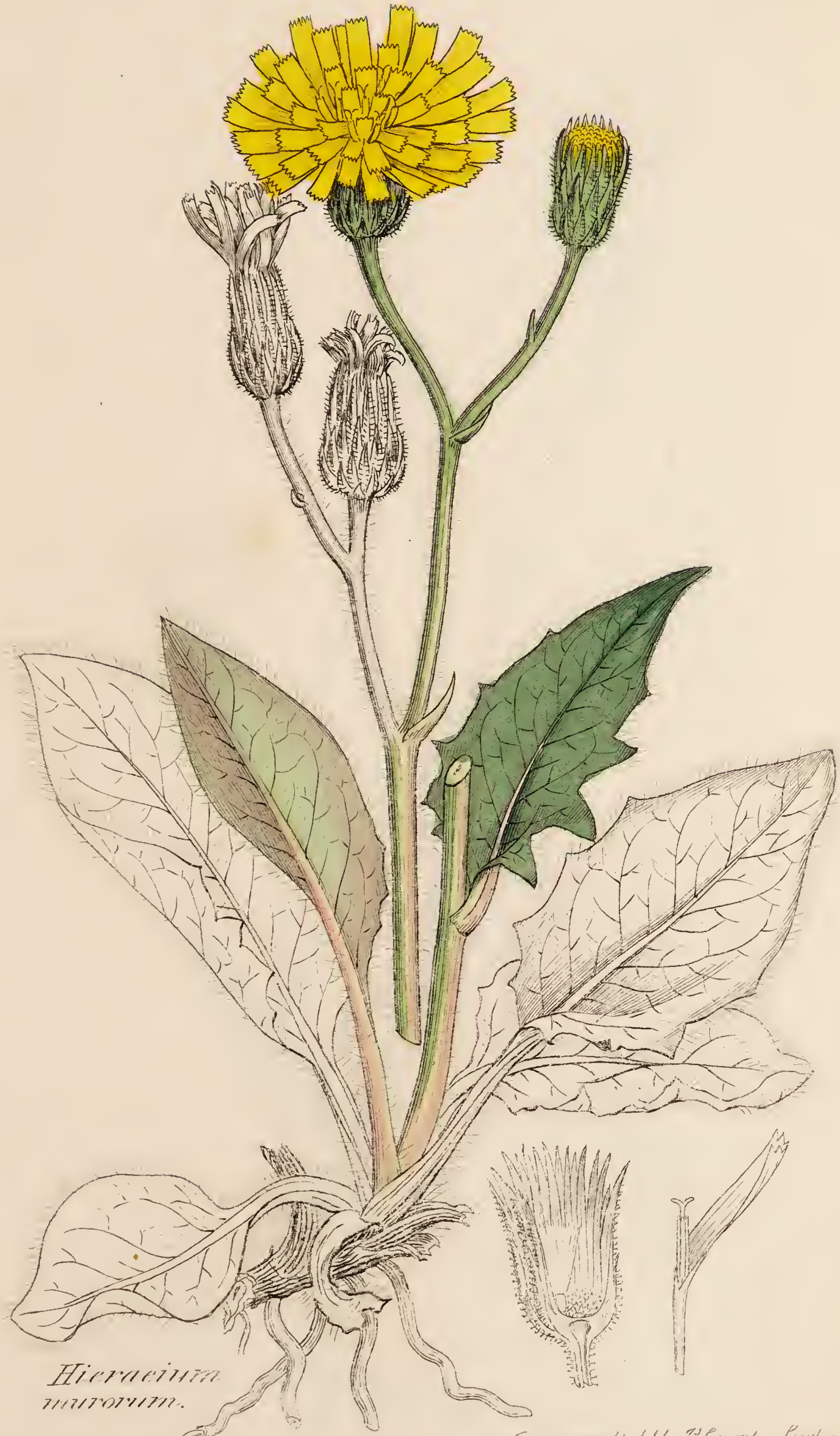
2307.
1087.



Hieracium pulmonarium.

published by J^s Sowerby London.

2082.
1088.

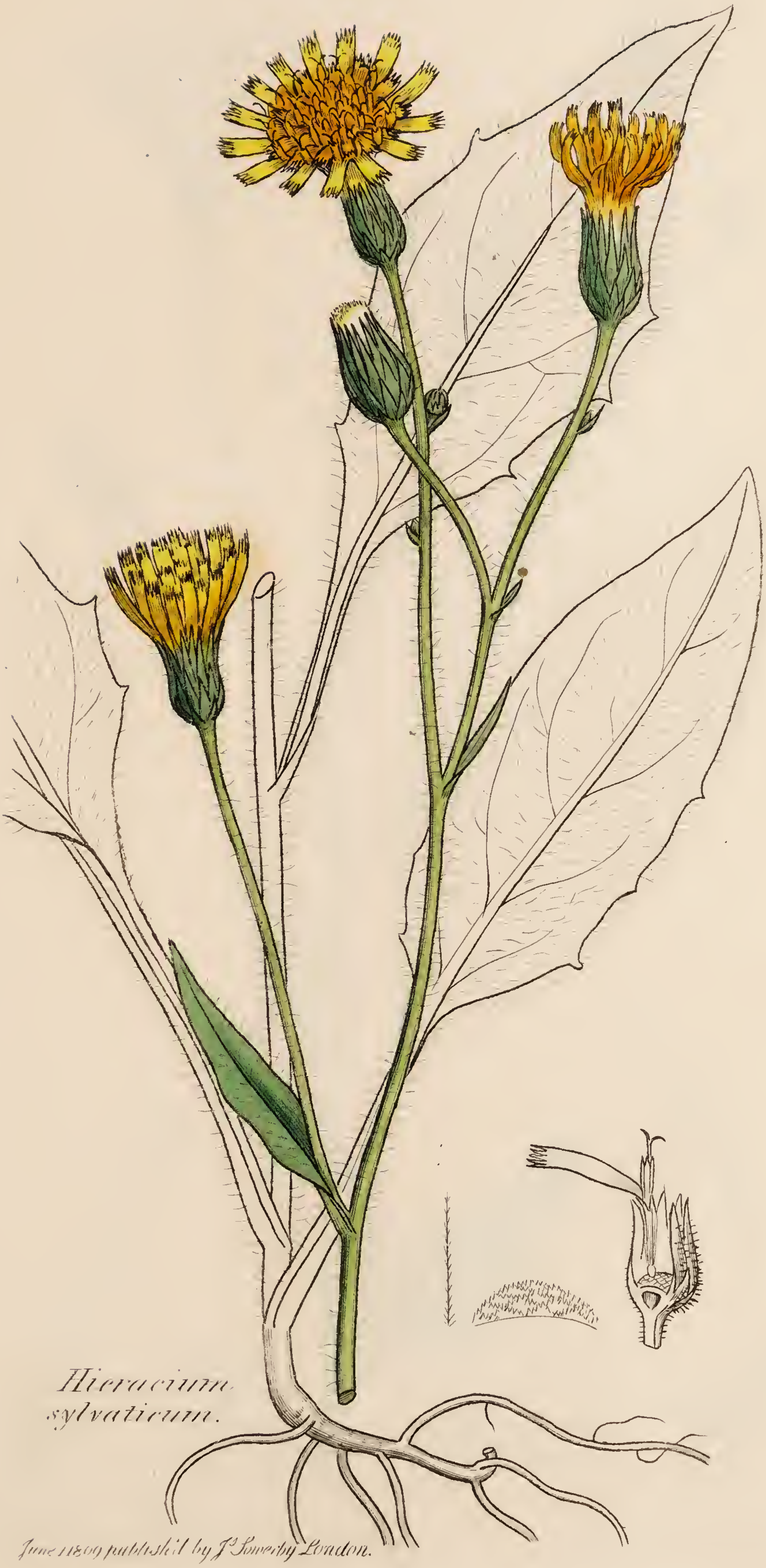


Hieracium murorum.

Jan. 1. 1[illegible] published by Jas. Sowerby London

2031

1089.

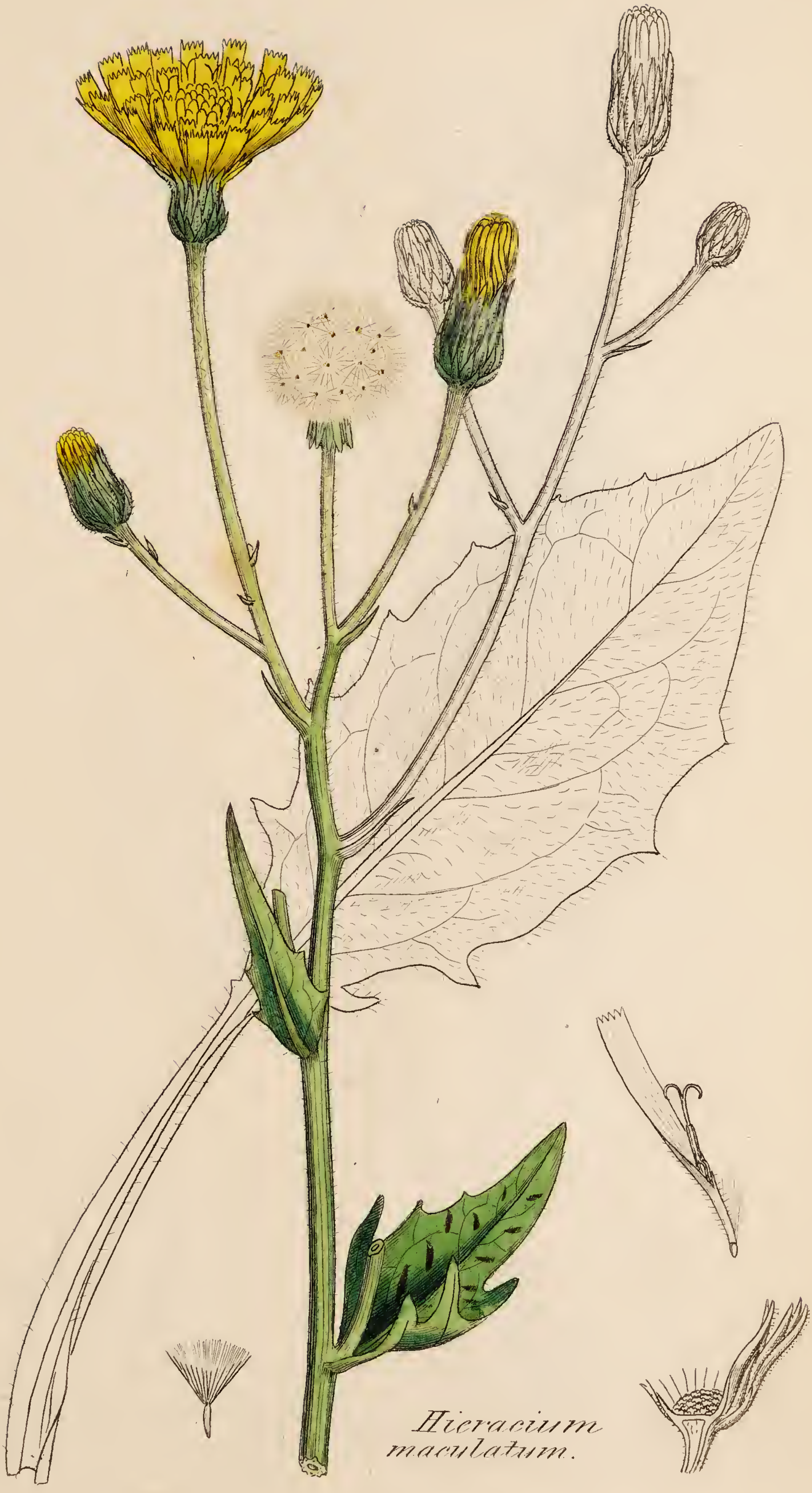


Hieracium sylvaticum.

June 1 1809 publish'd by Js Sowerby London.

2121.

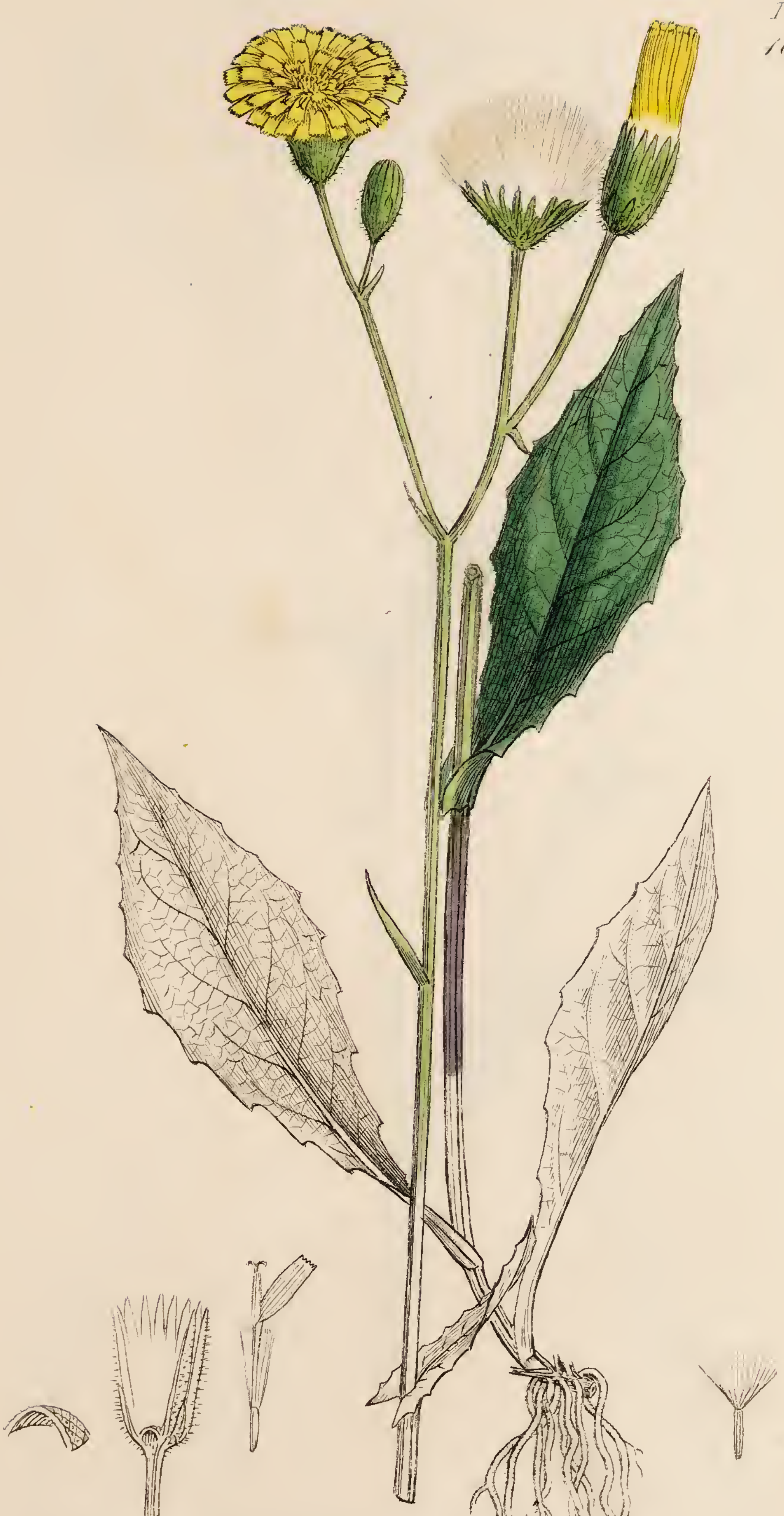
1090.



Hieracium maculatum.

Mar 1810 published by Js Sowerby London.

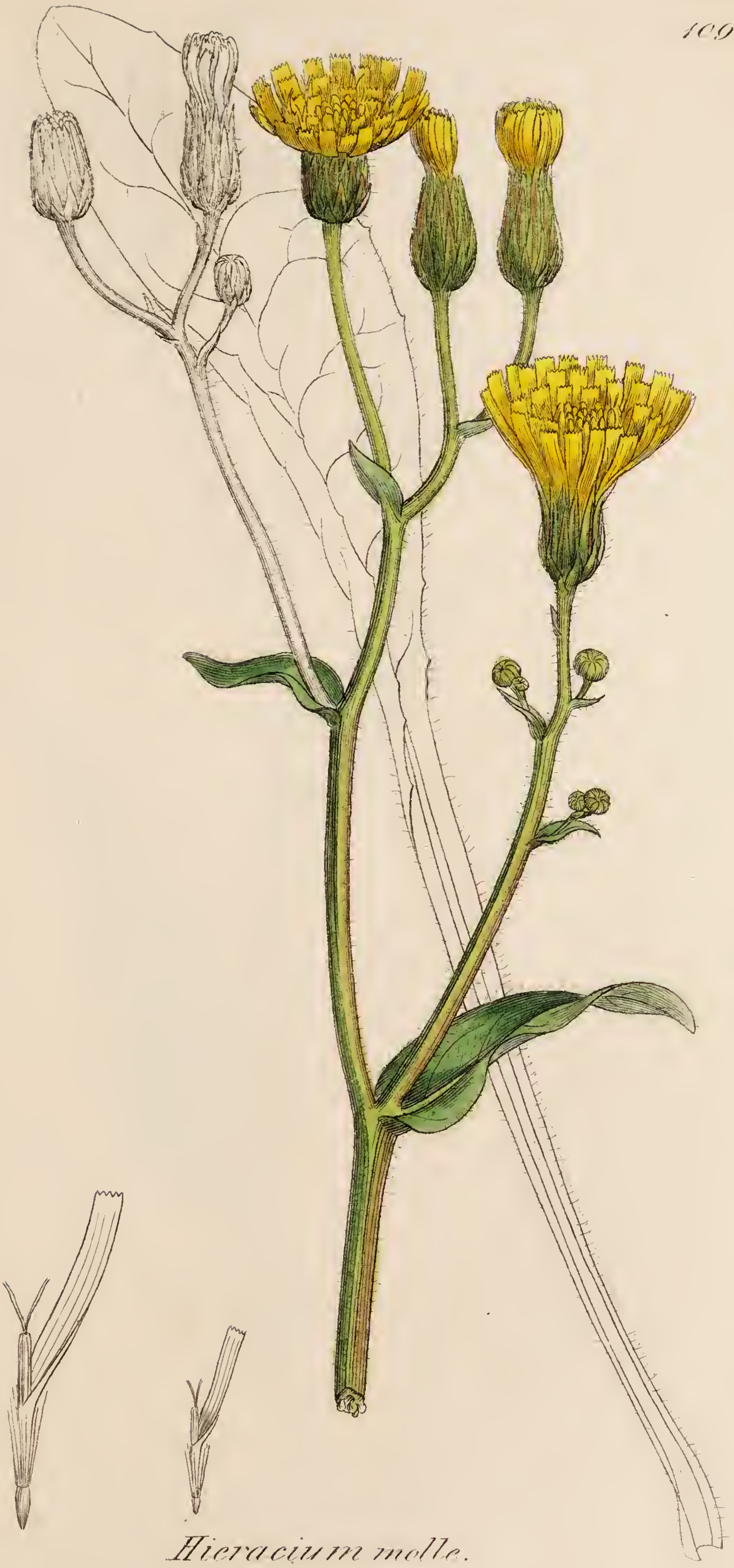
1094
1094.



Hieracium paludosum.

Novr 1 1802 Publiſhed by Jas Sowerby London

2210.
1092.

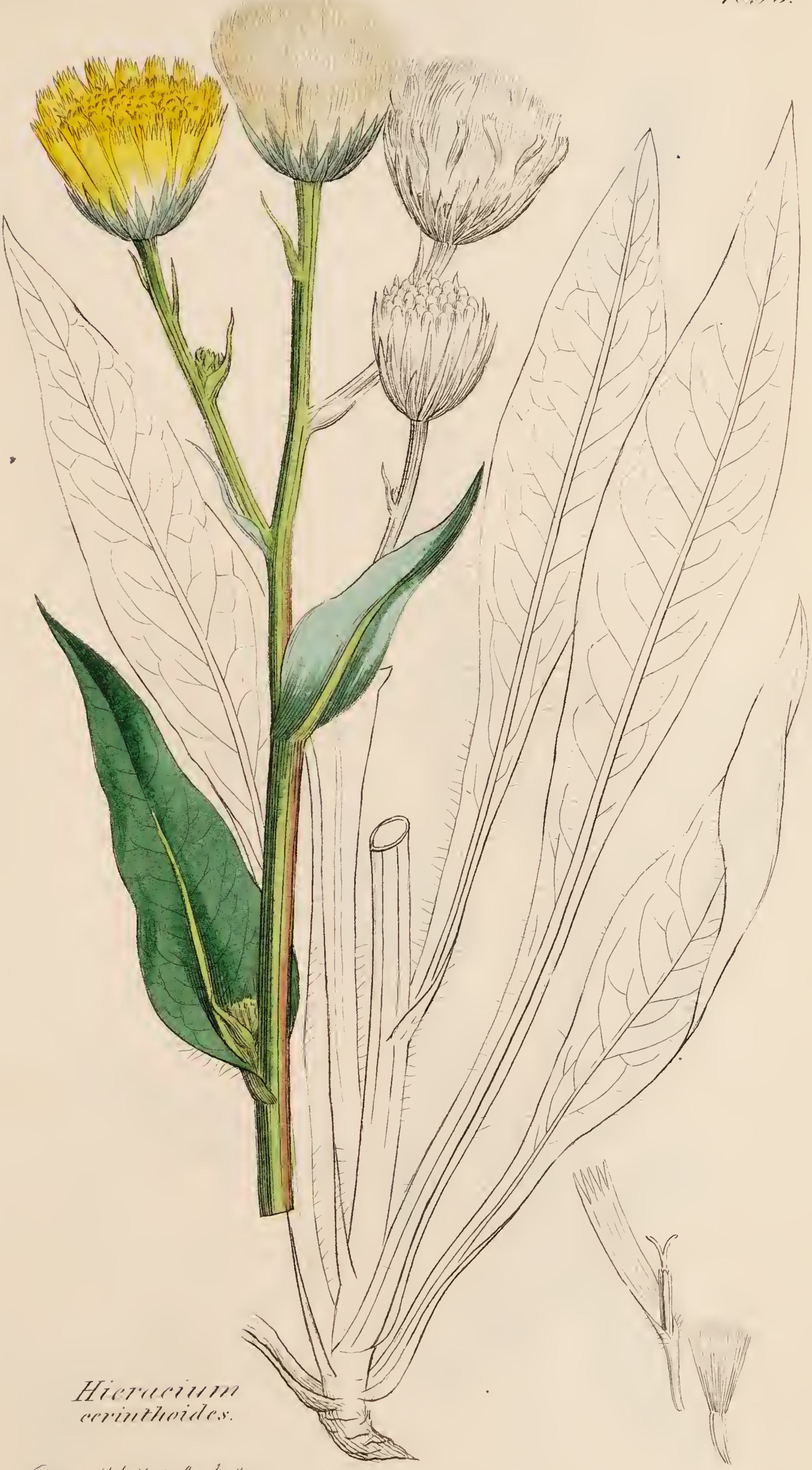


Hieracium molle.

Nov 1 1810 published by Js. Sowerby Lond.

2378.

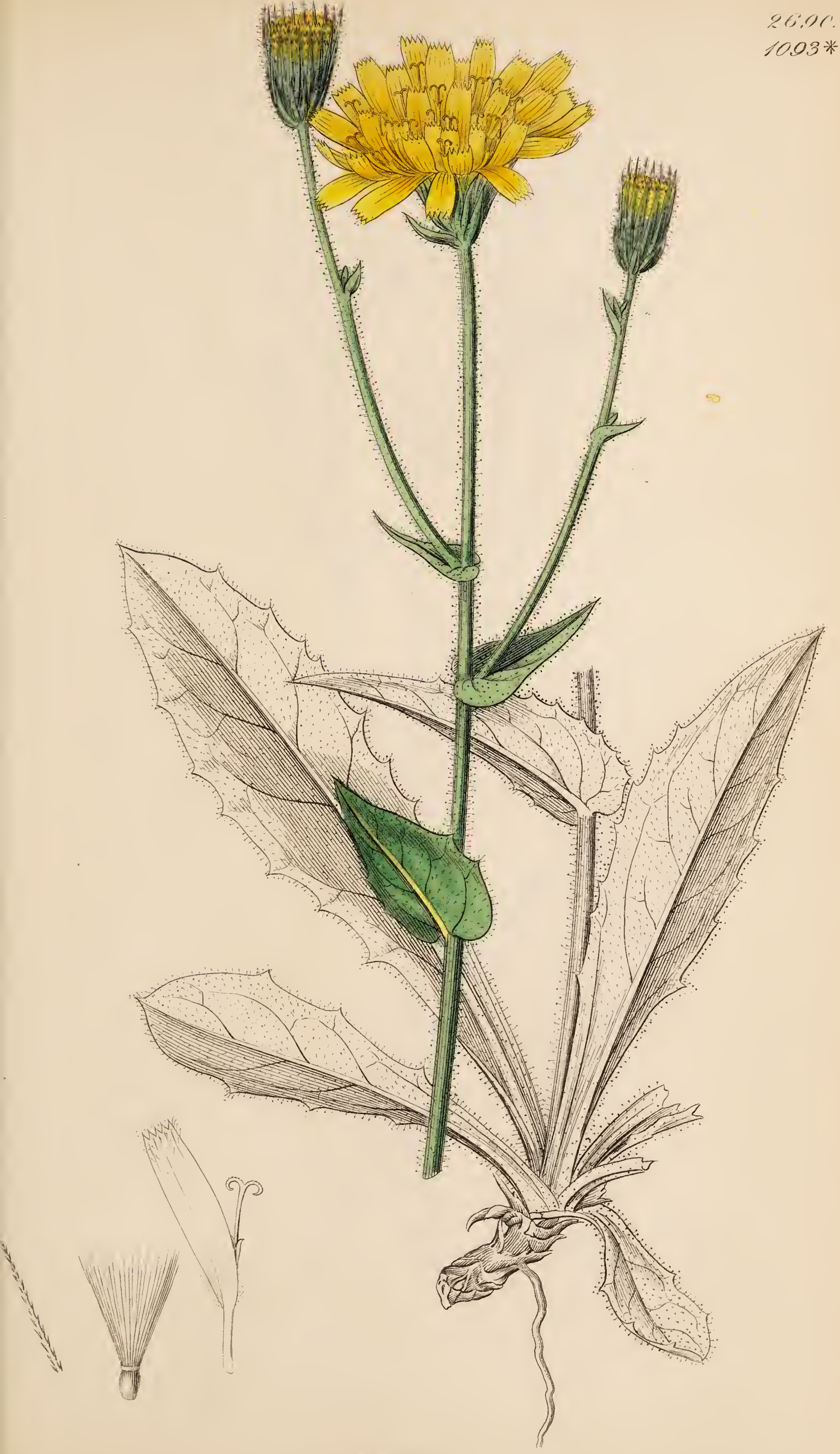
1093.



Hieracium cerinthoides.

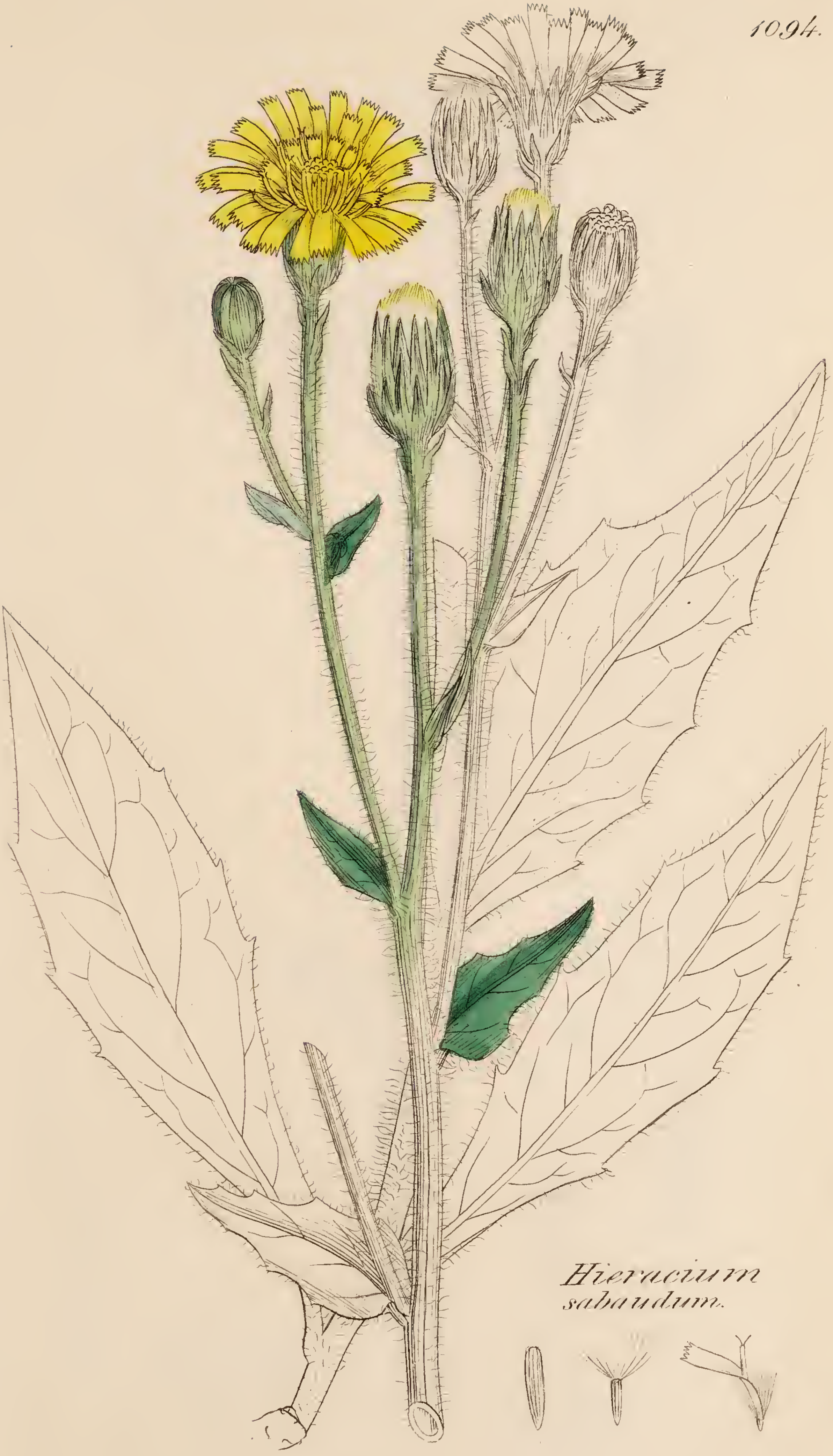
Feb. 1. 1812 published by Jas. Sowerby London.

2690.
1093*



April 1st 1837.

1094.

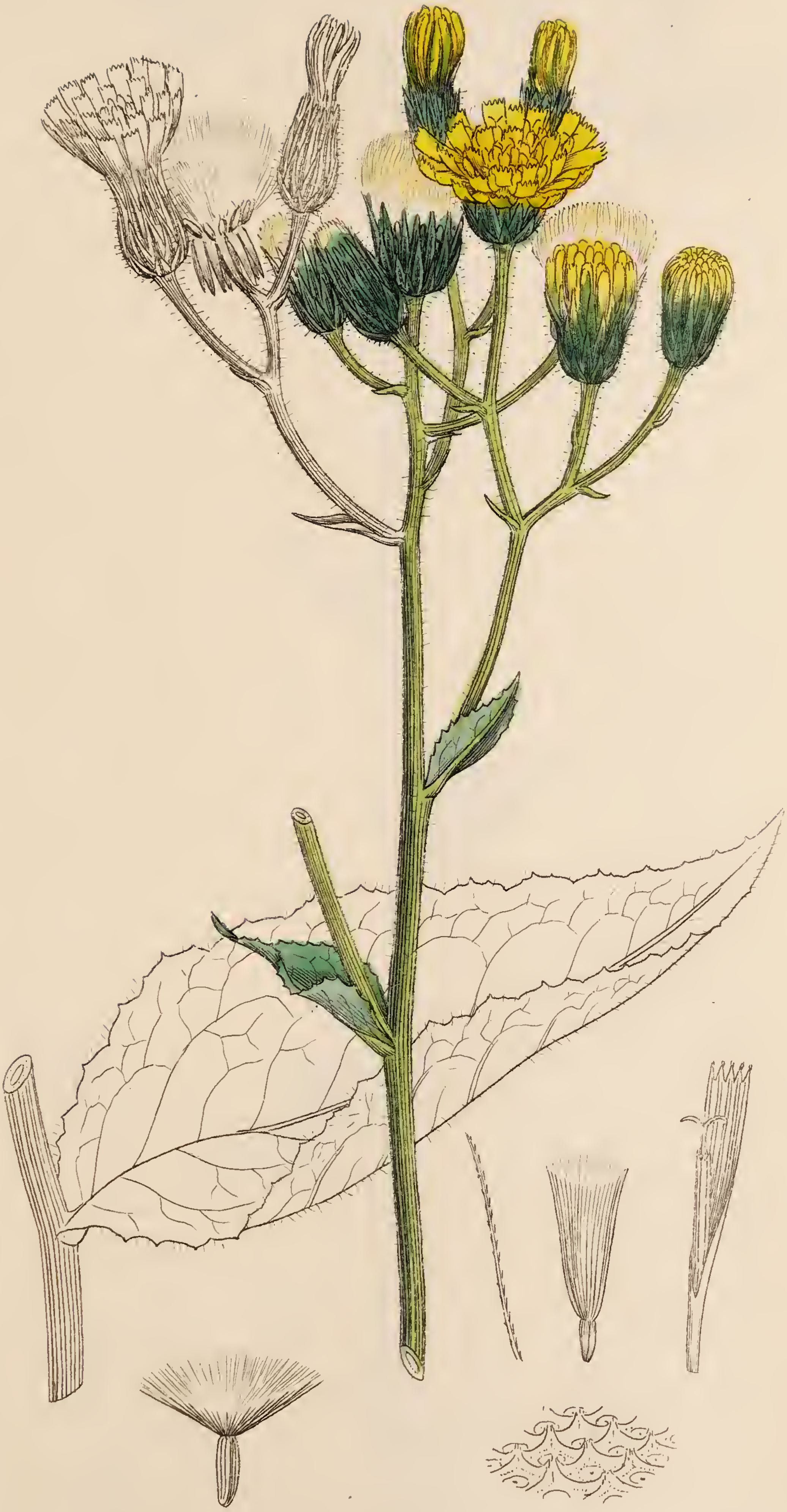


Hieracium sabaudum.

796 Published by J. Sowerby London.

2122.

1095.

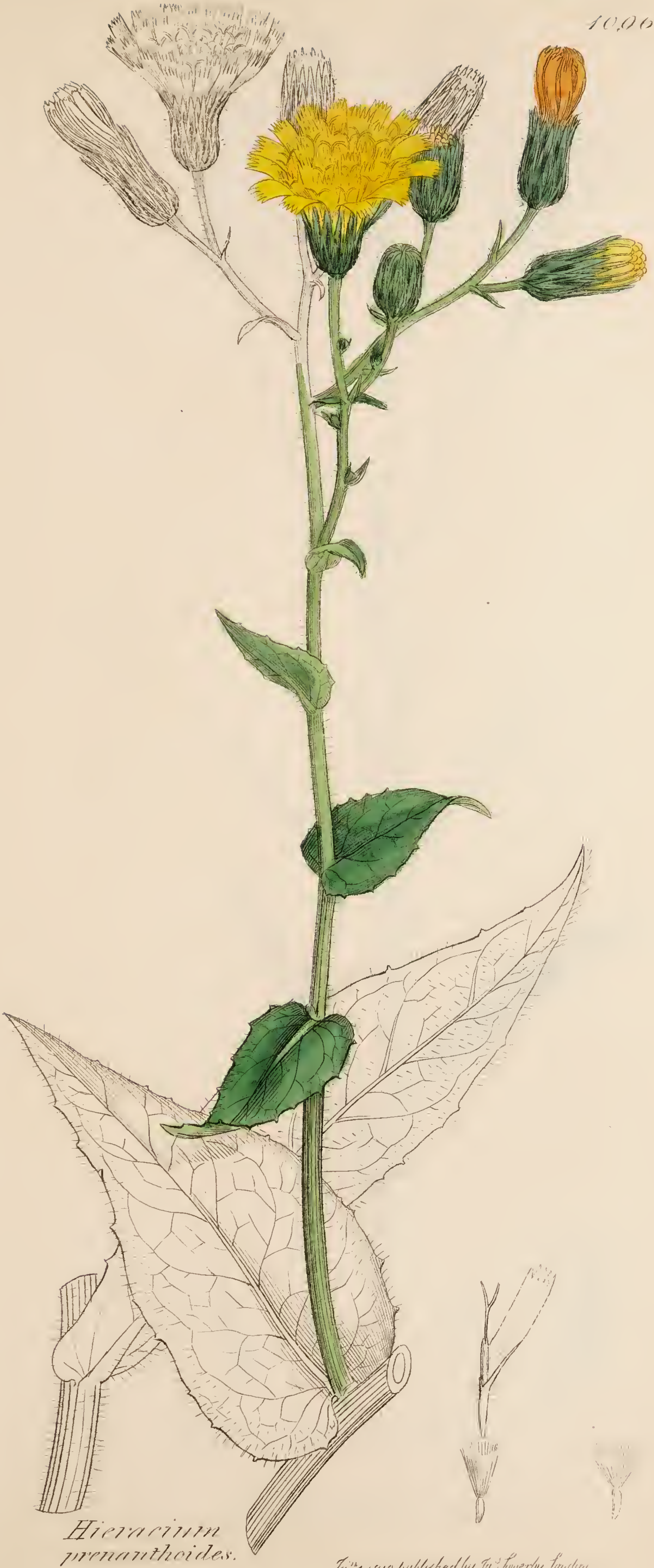


Hieracium denticulatum.

Mar 1 1810 published by Js Sowerby London

2235

10,06.

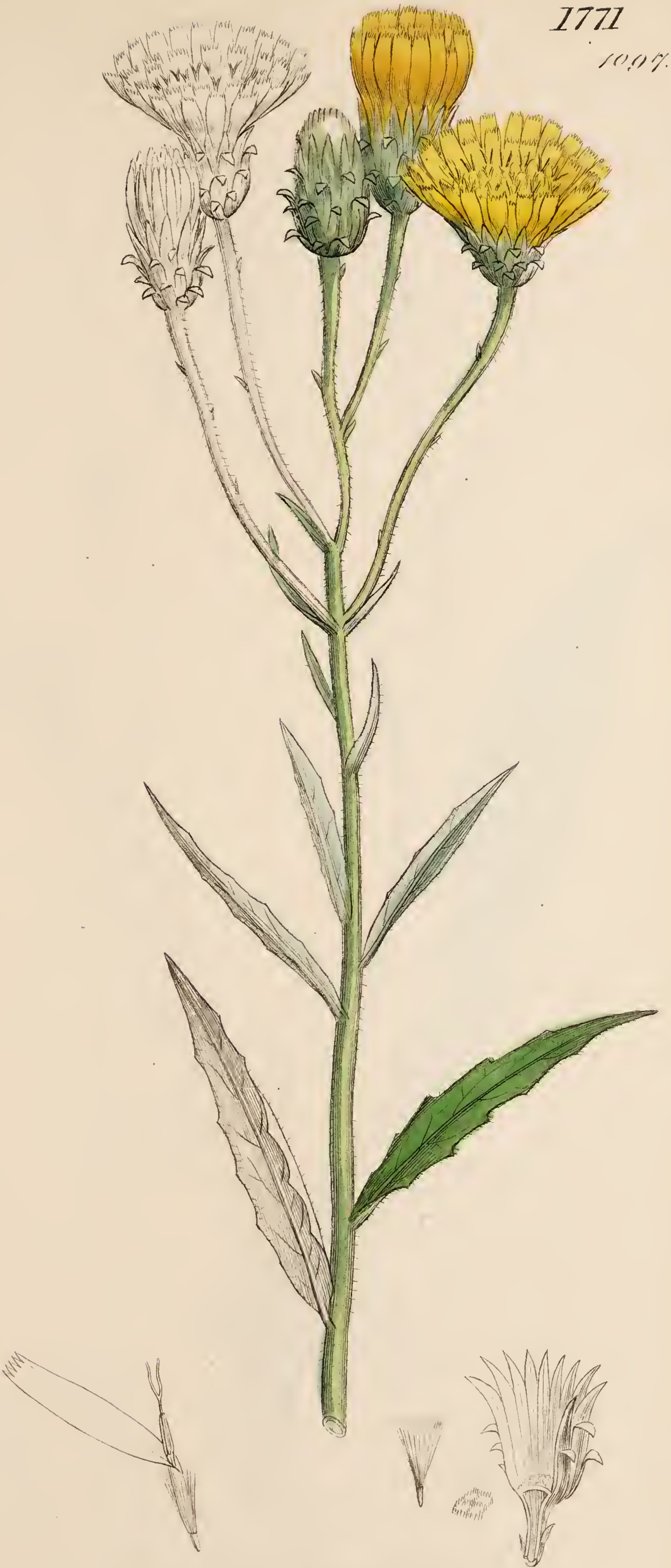


Hieracium prenanthoides.

Jan 1.1810 published by Jas Sowerby London.

1771

1097.

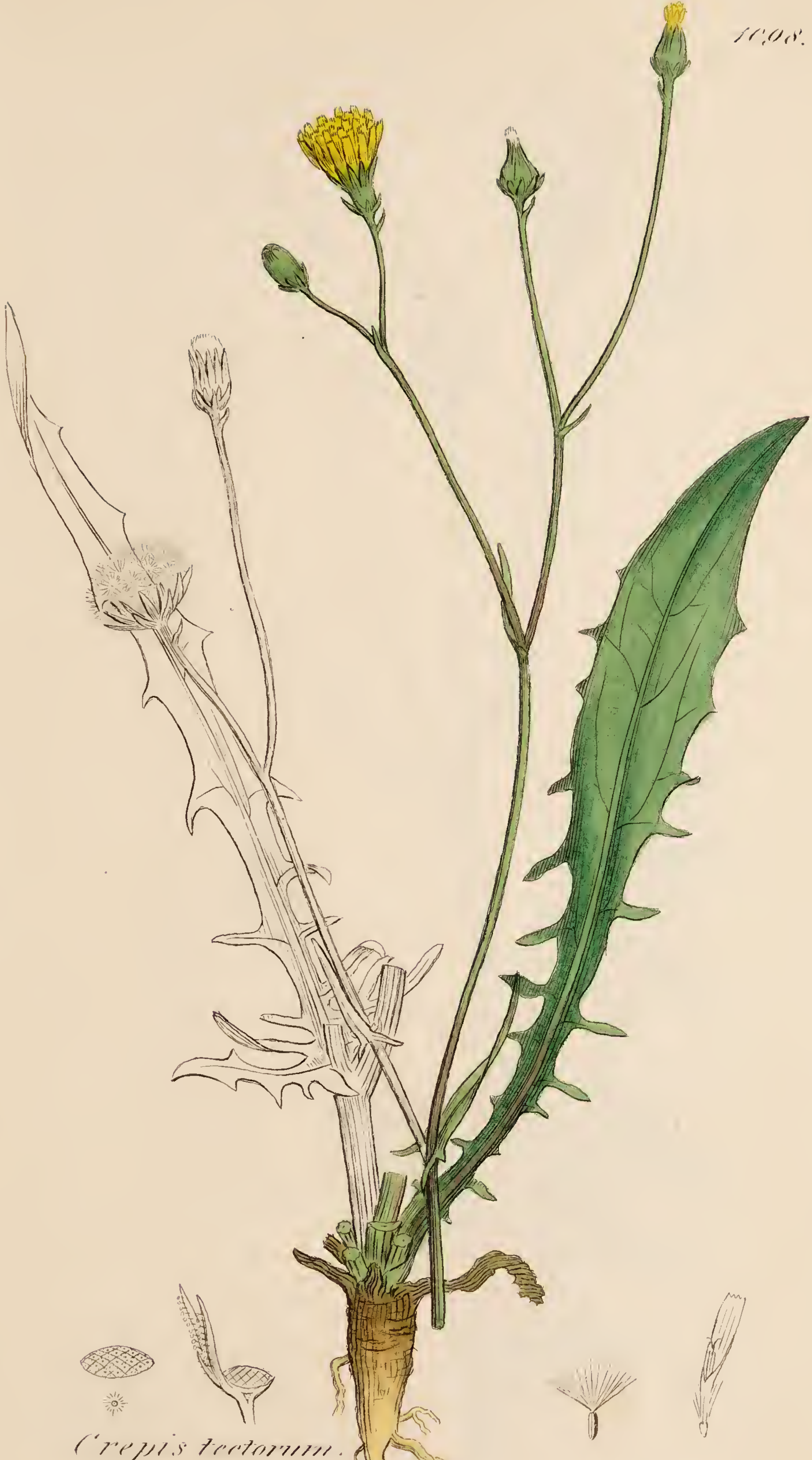


Hieracium umbellatum.

Aug 1. 1807. Published by Jas. Sowerby London.

1111

1098.

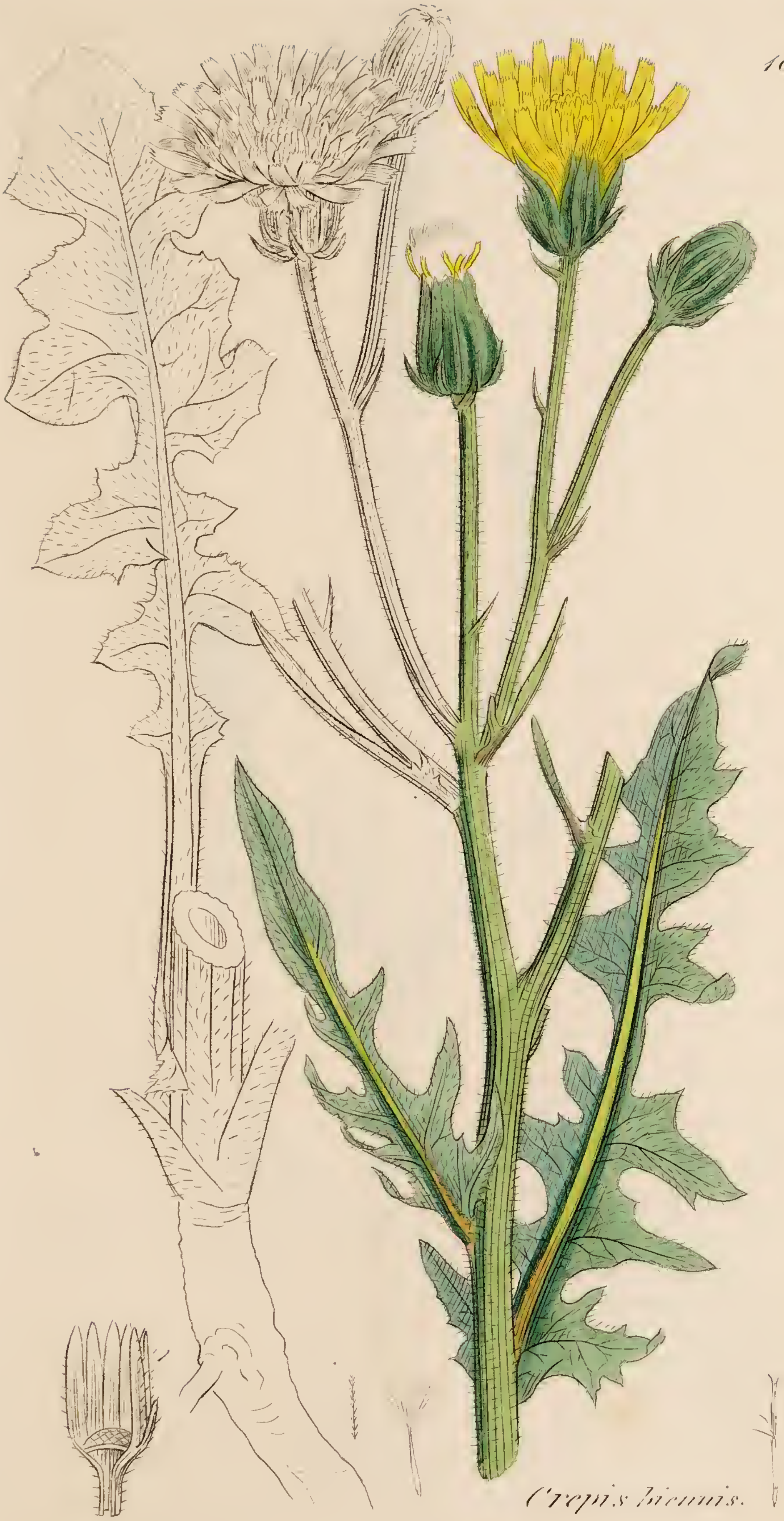


Crepis tectorum.

Jan.y 1 1802. Publiſhed by Ja.s Sowerby London

149.

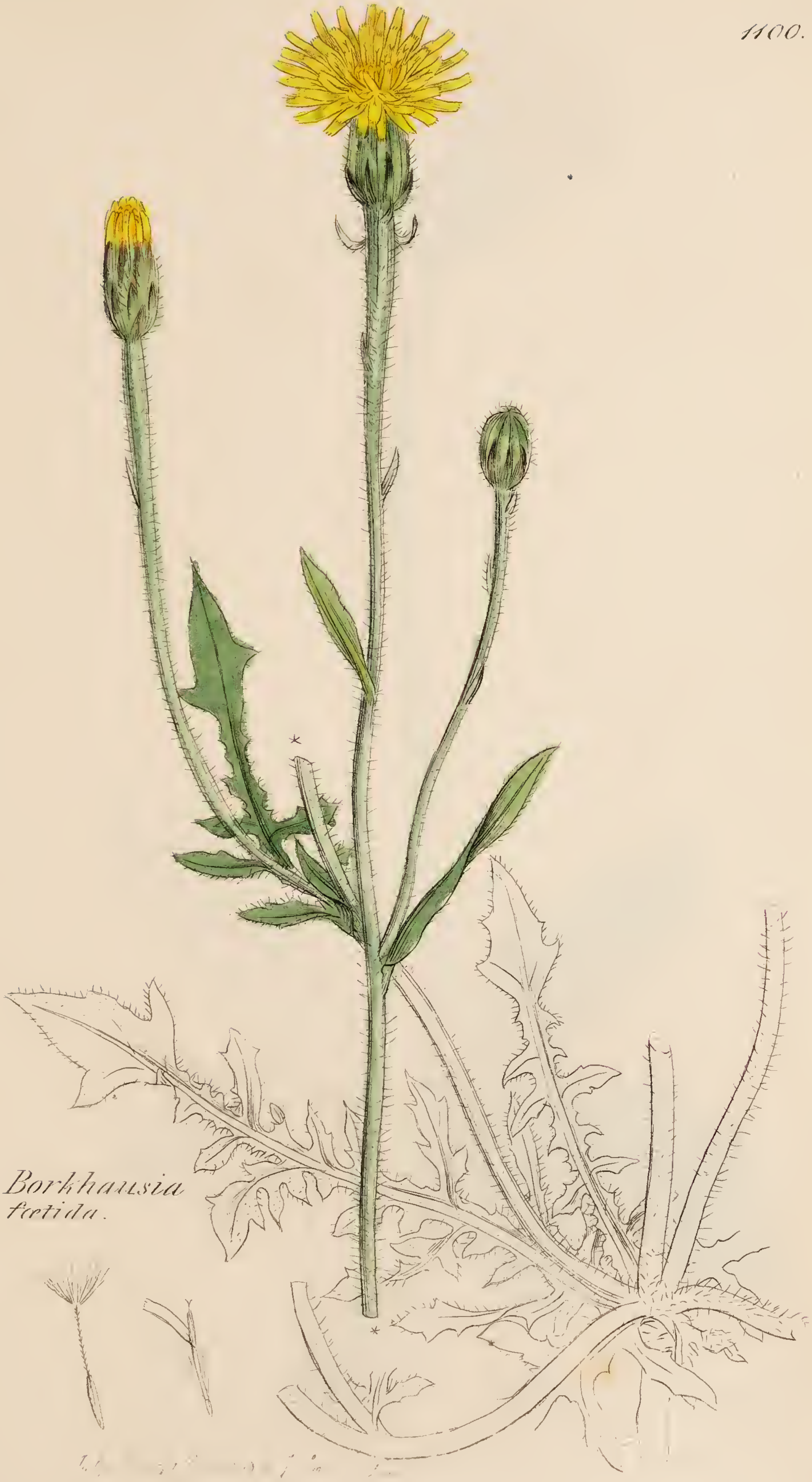
1099.



Crepis biennis.

406.

1100.

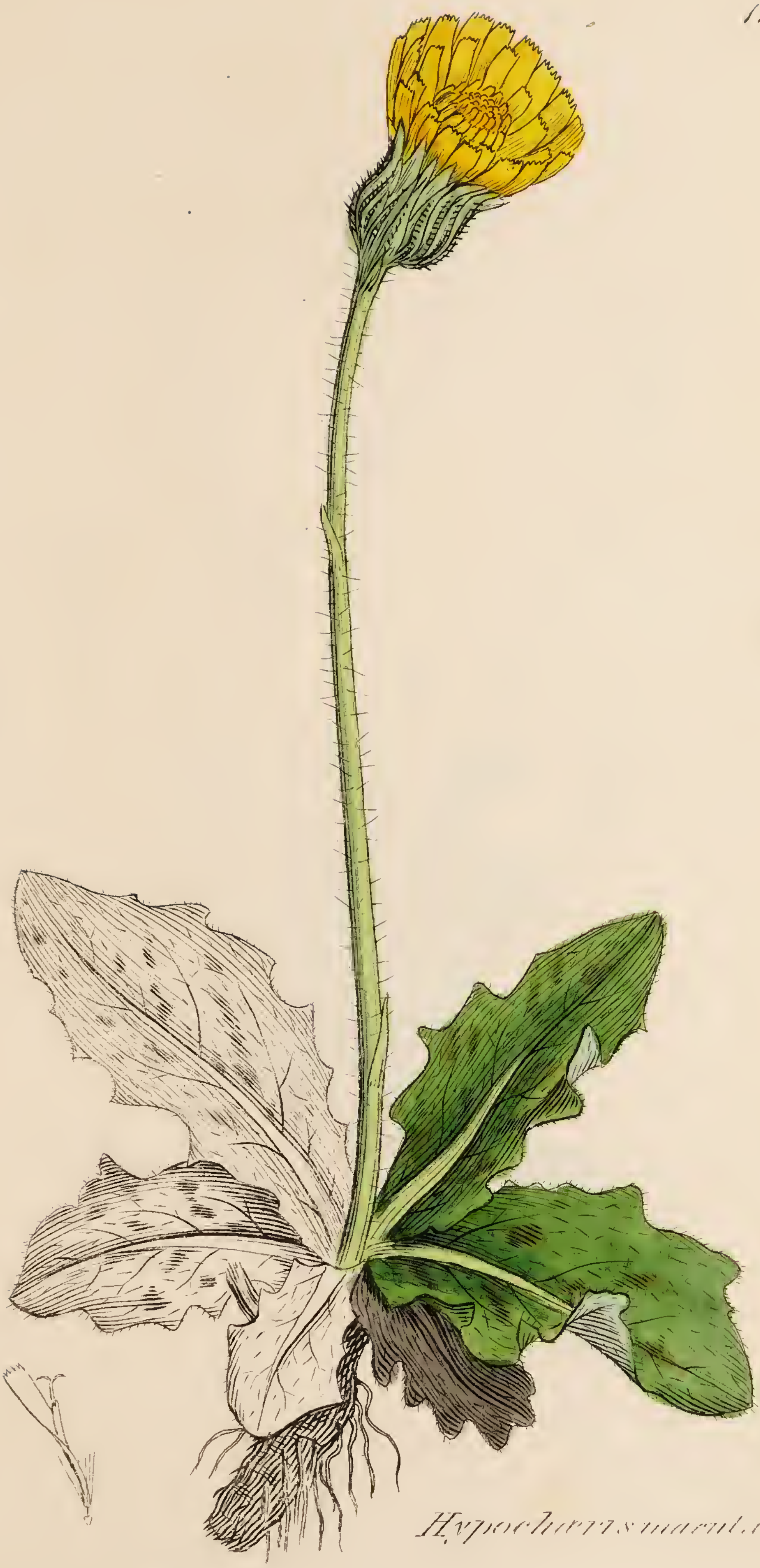


Borkhausia fœtida.

[illegible]

225

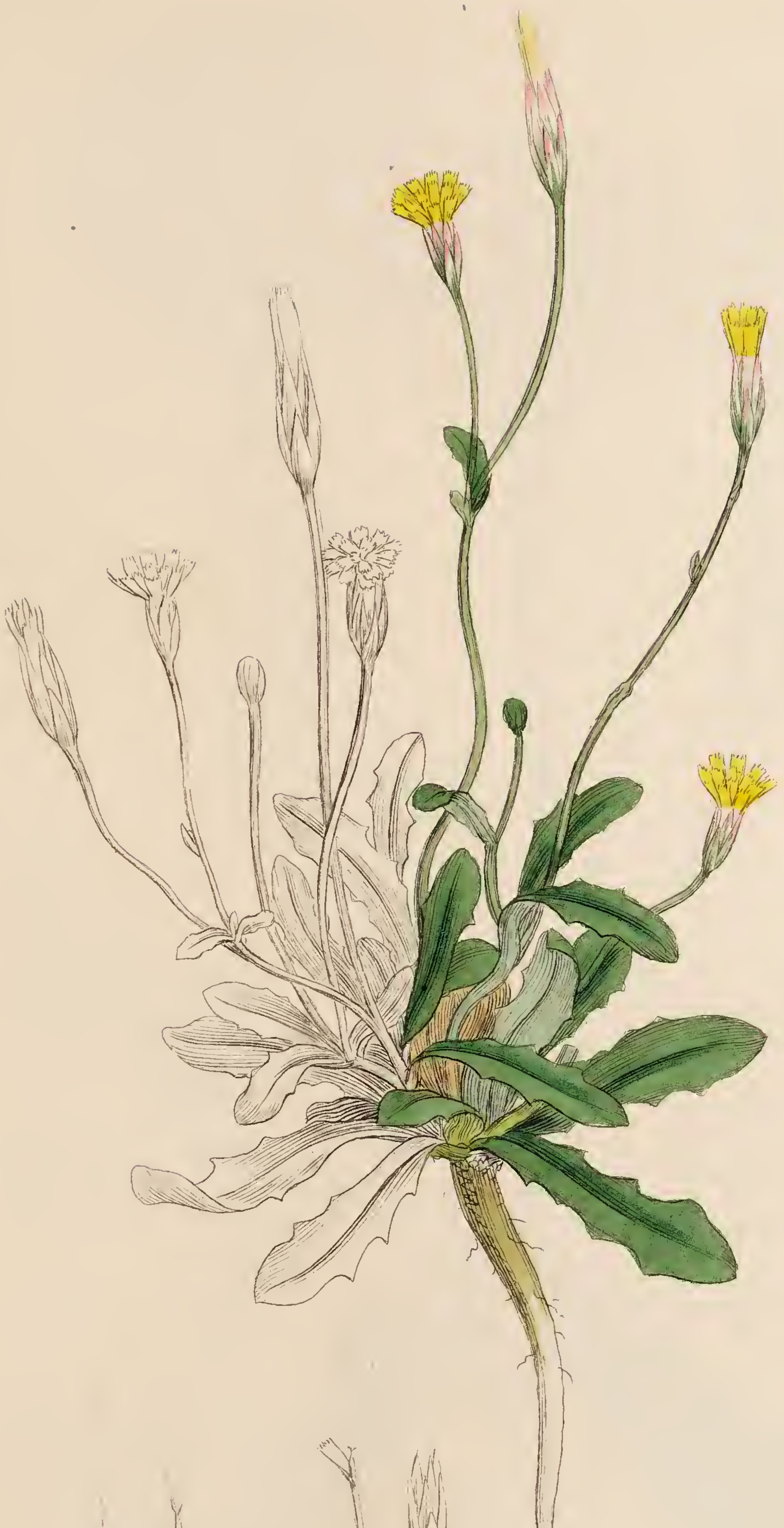
1101.



Hypochæris maculata

[illegible] Published by J.ˢ Sowerby Lond.

575.
1102.

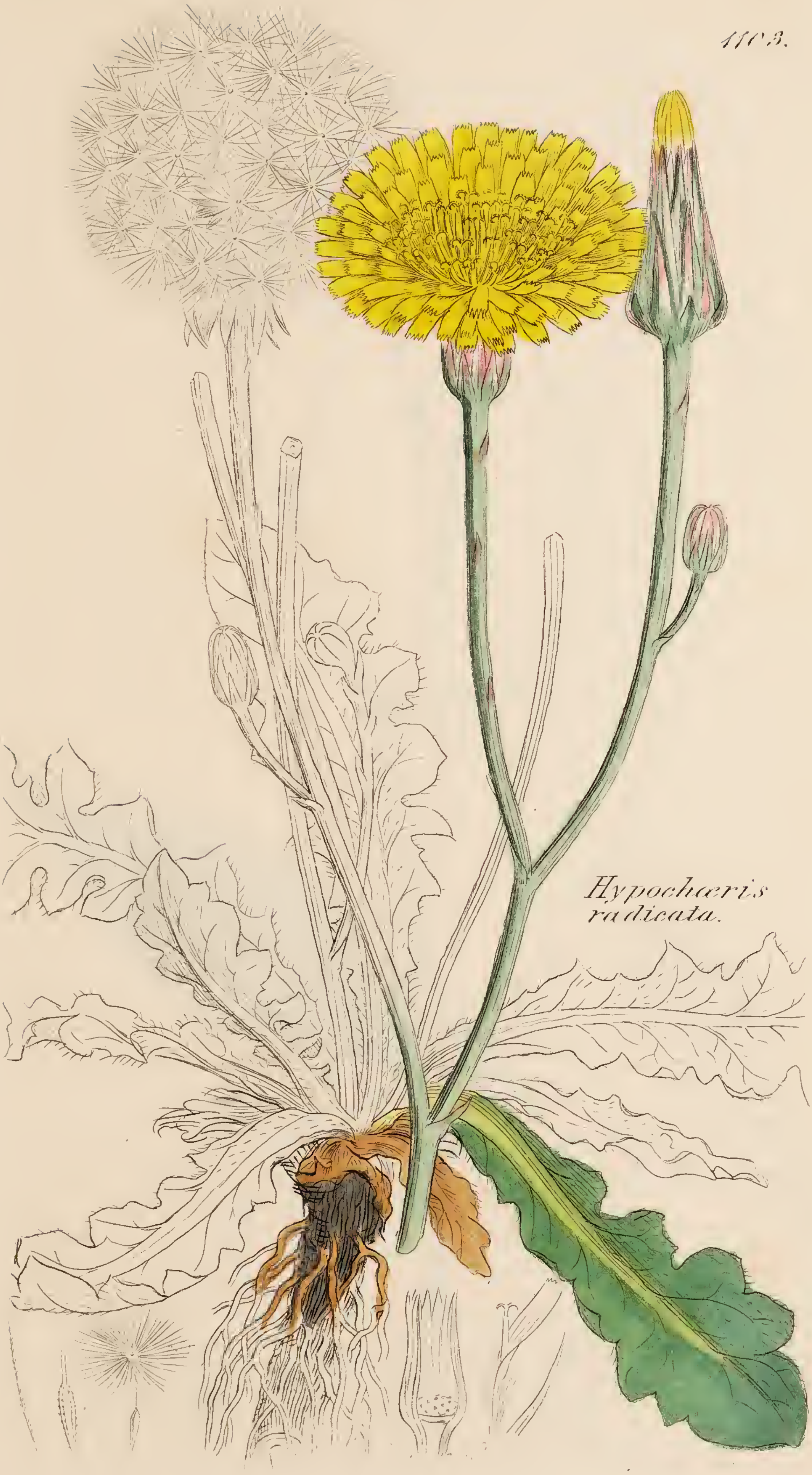


Hypochæris glabra.

April 1. 1799 Published by J. [illegible]

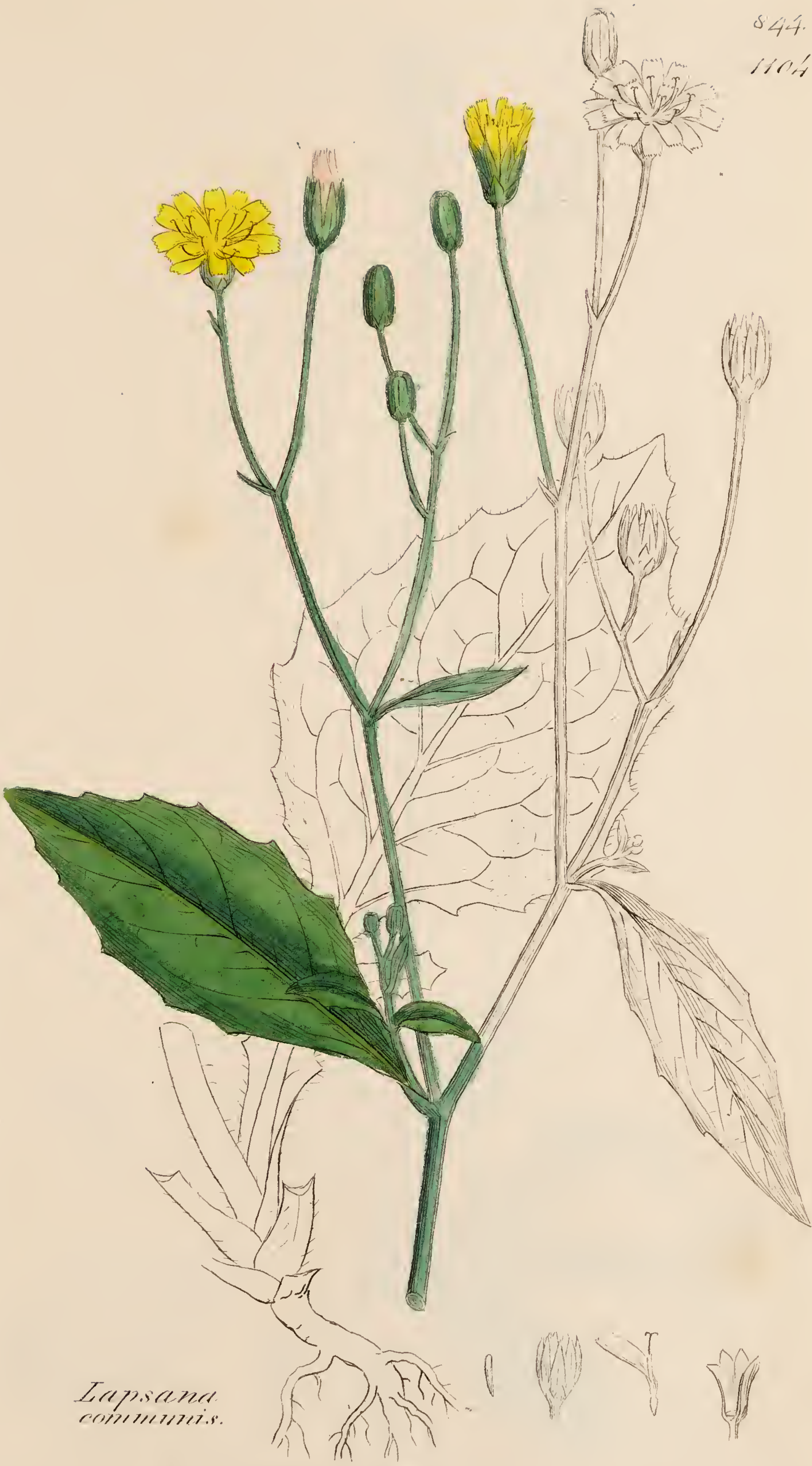
831.

1103.



Hypochæris radicata.

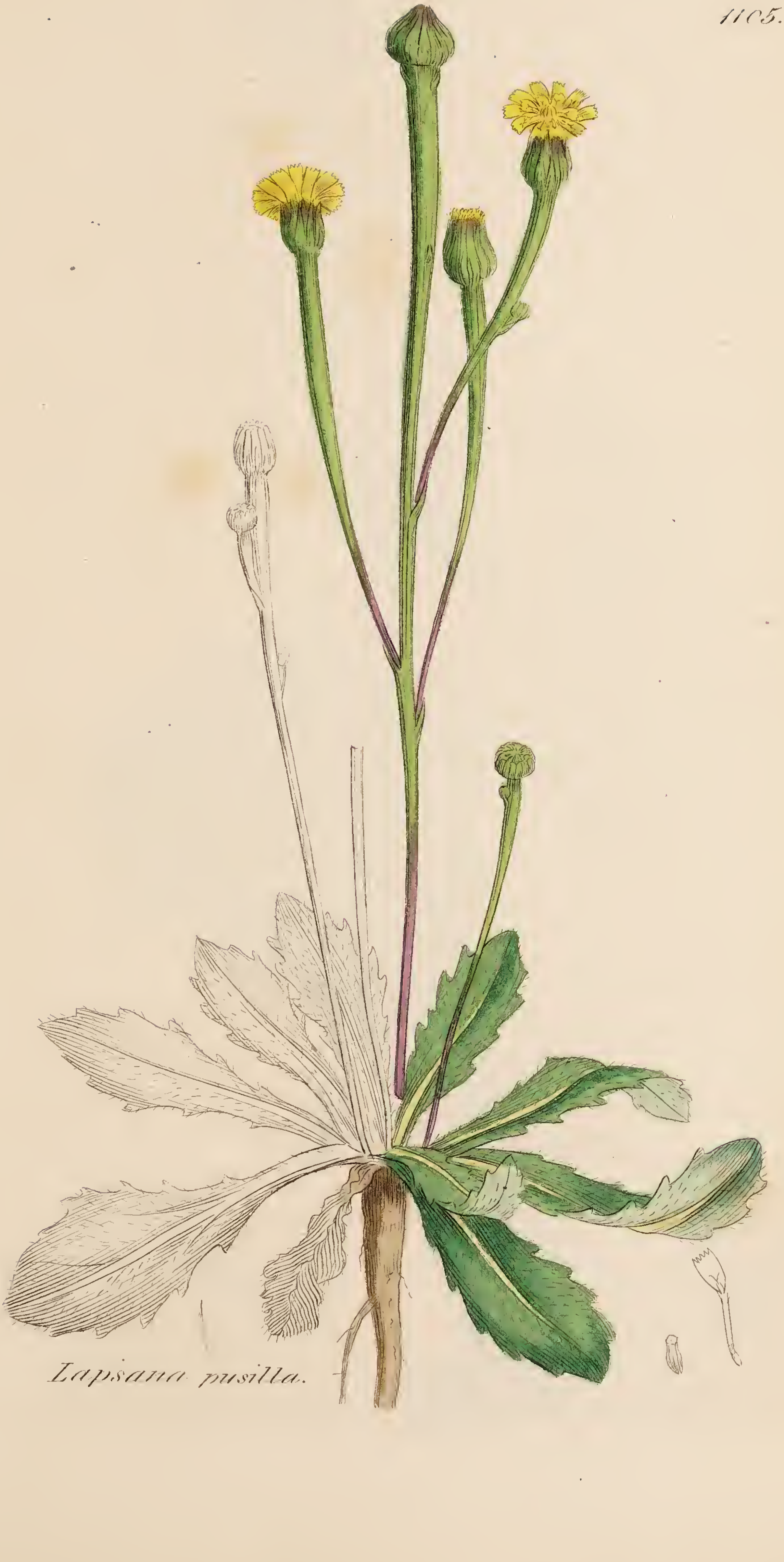
844.
1104.



Lapsana communis.

[illegible]

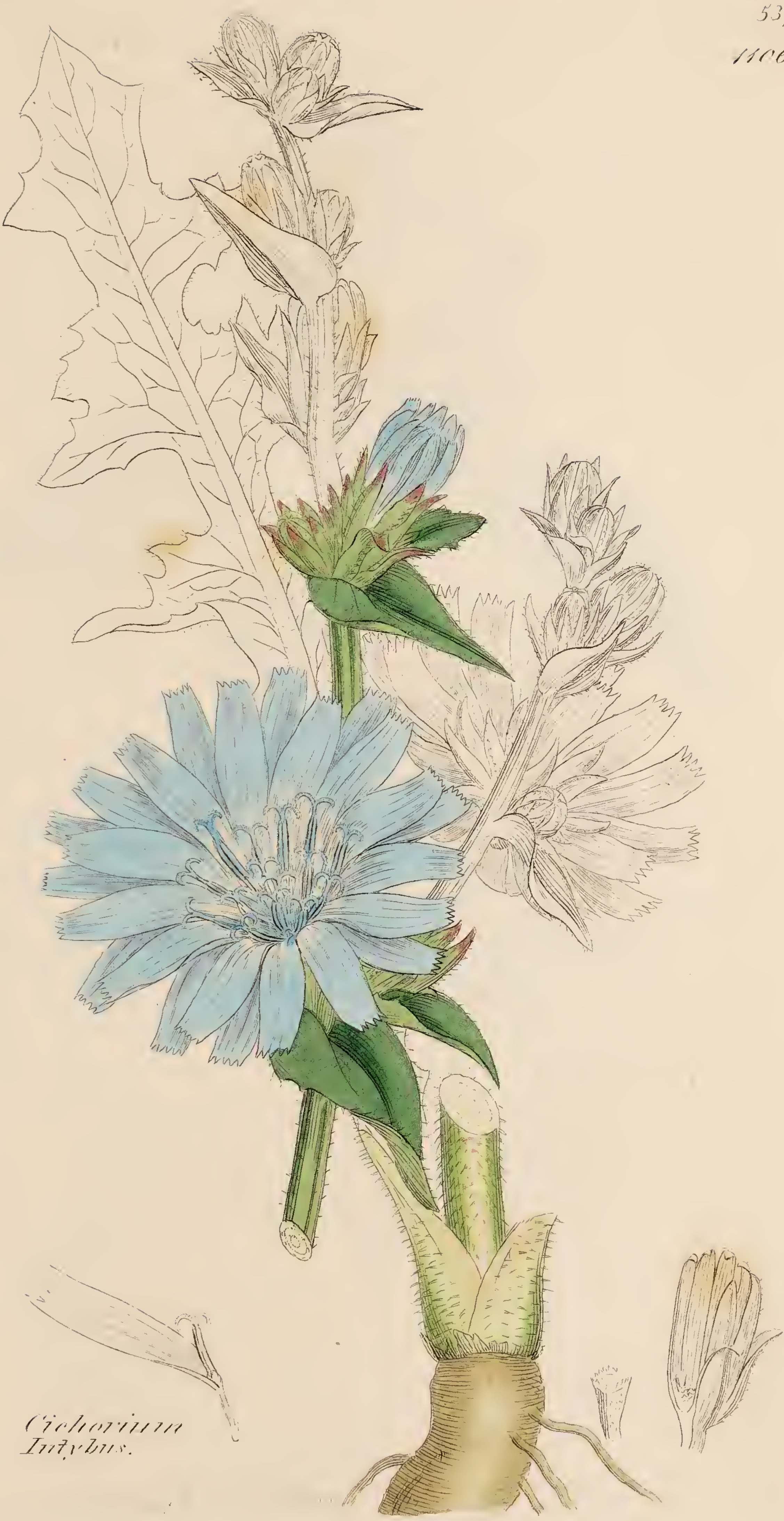
95.
1105.



Lapsana pusilla.

539.

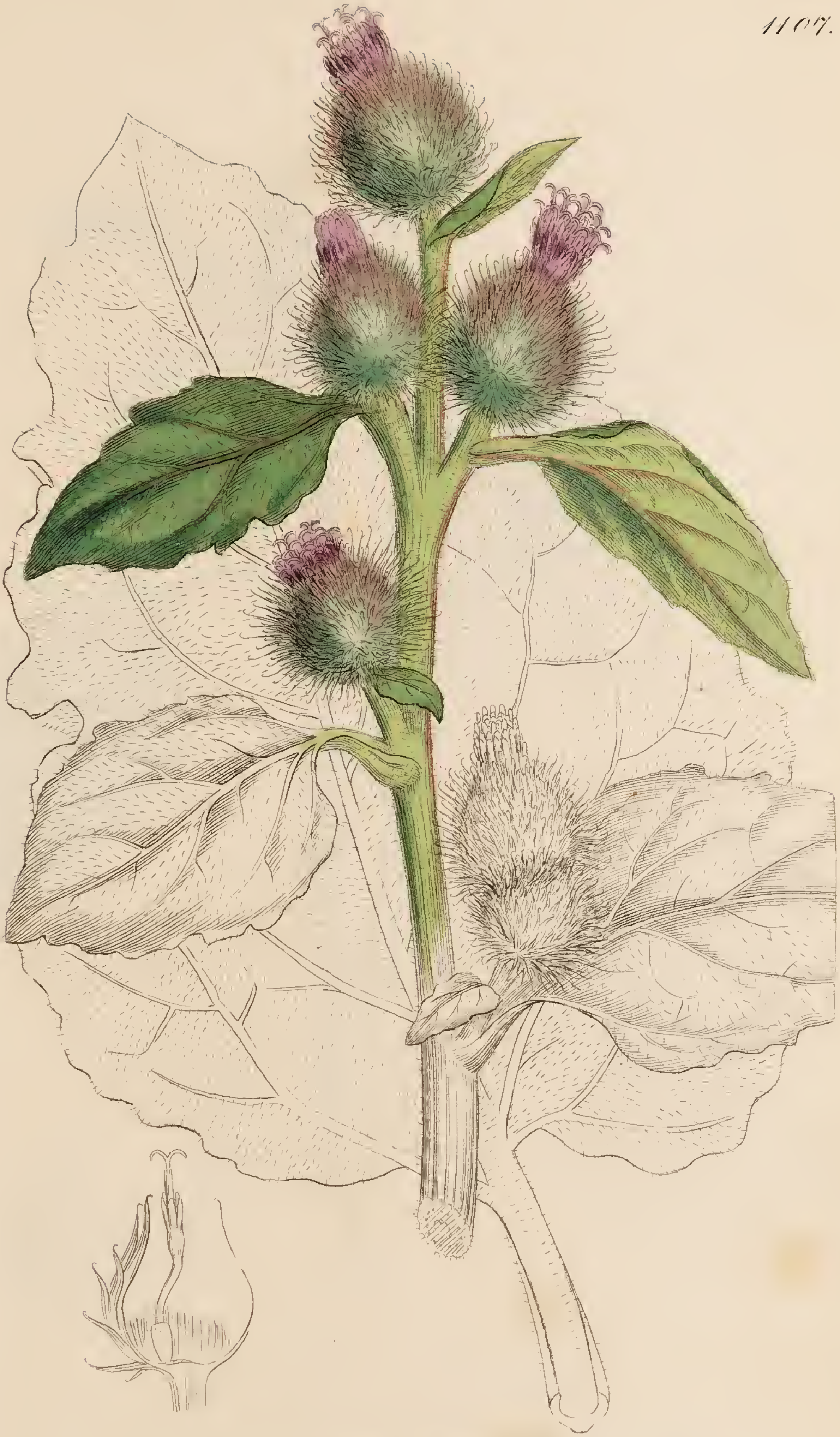
1106.



Cichorium Intybus.

1228

1107.

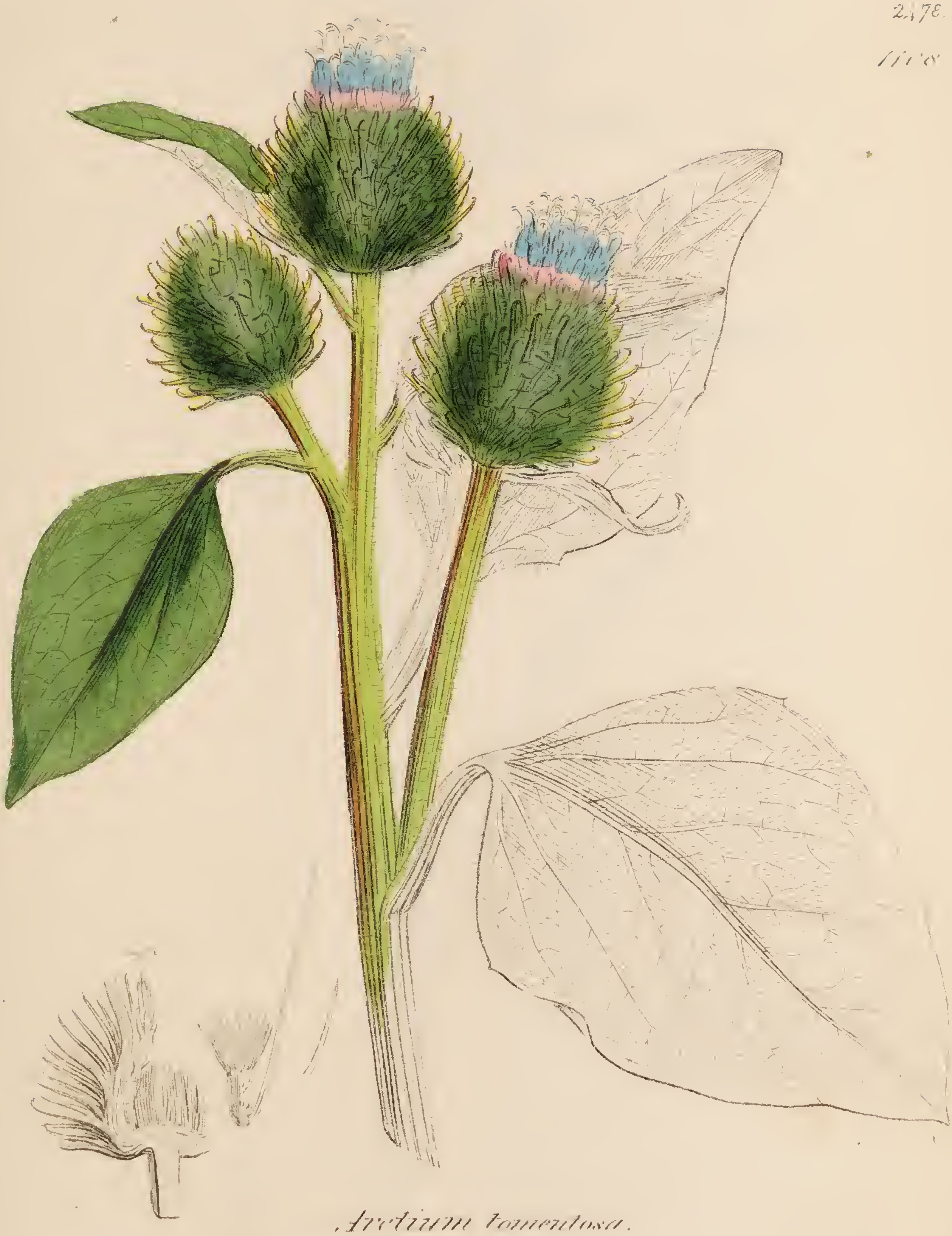


Arctium Lappa.

Pub. 1 Dec. [illegible] by Jas Sowerby London

2478.

1118

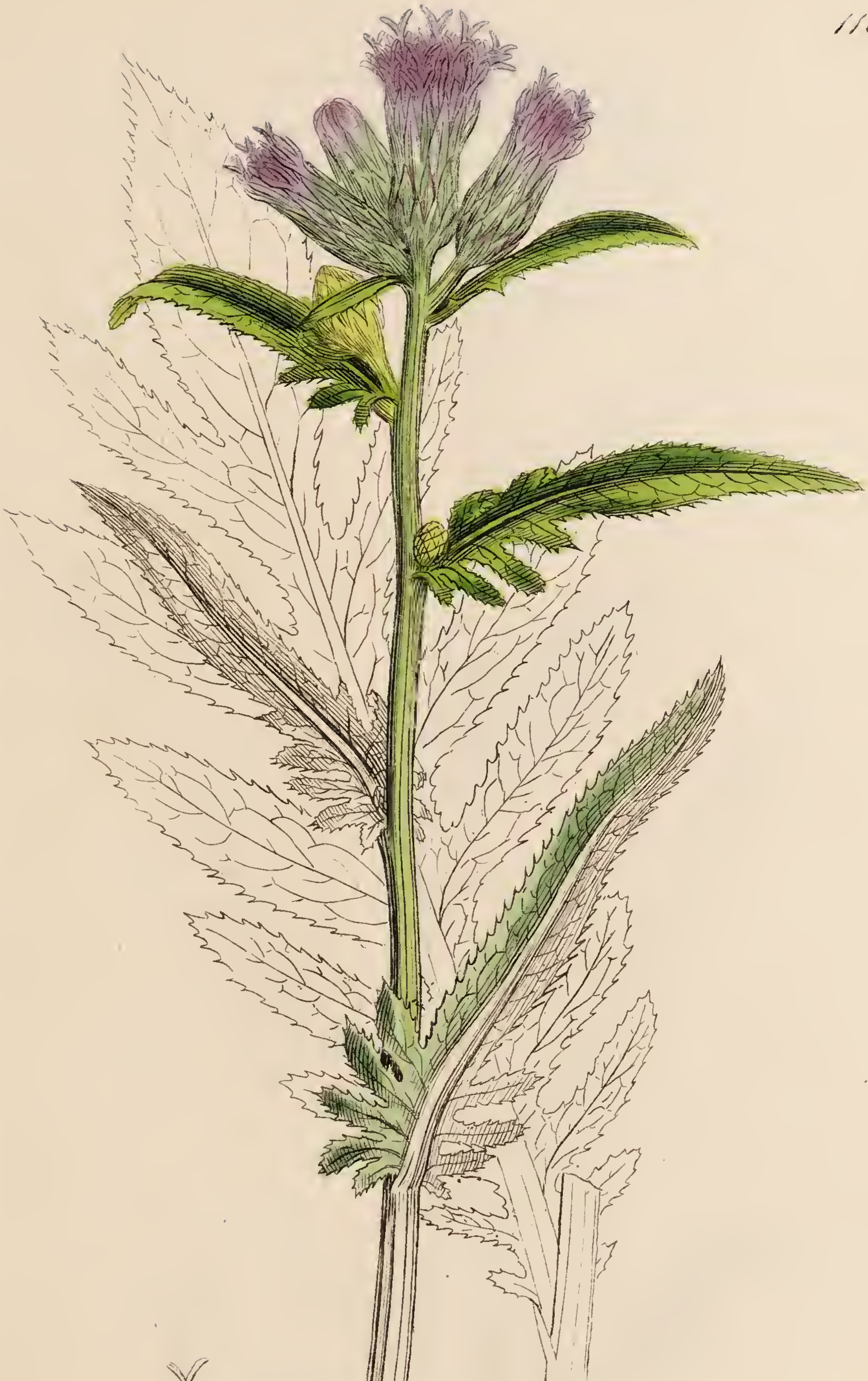


Arctium tomentosa.

[illegible] by Js Sowerby London.

38

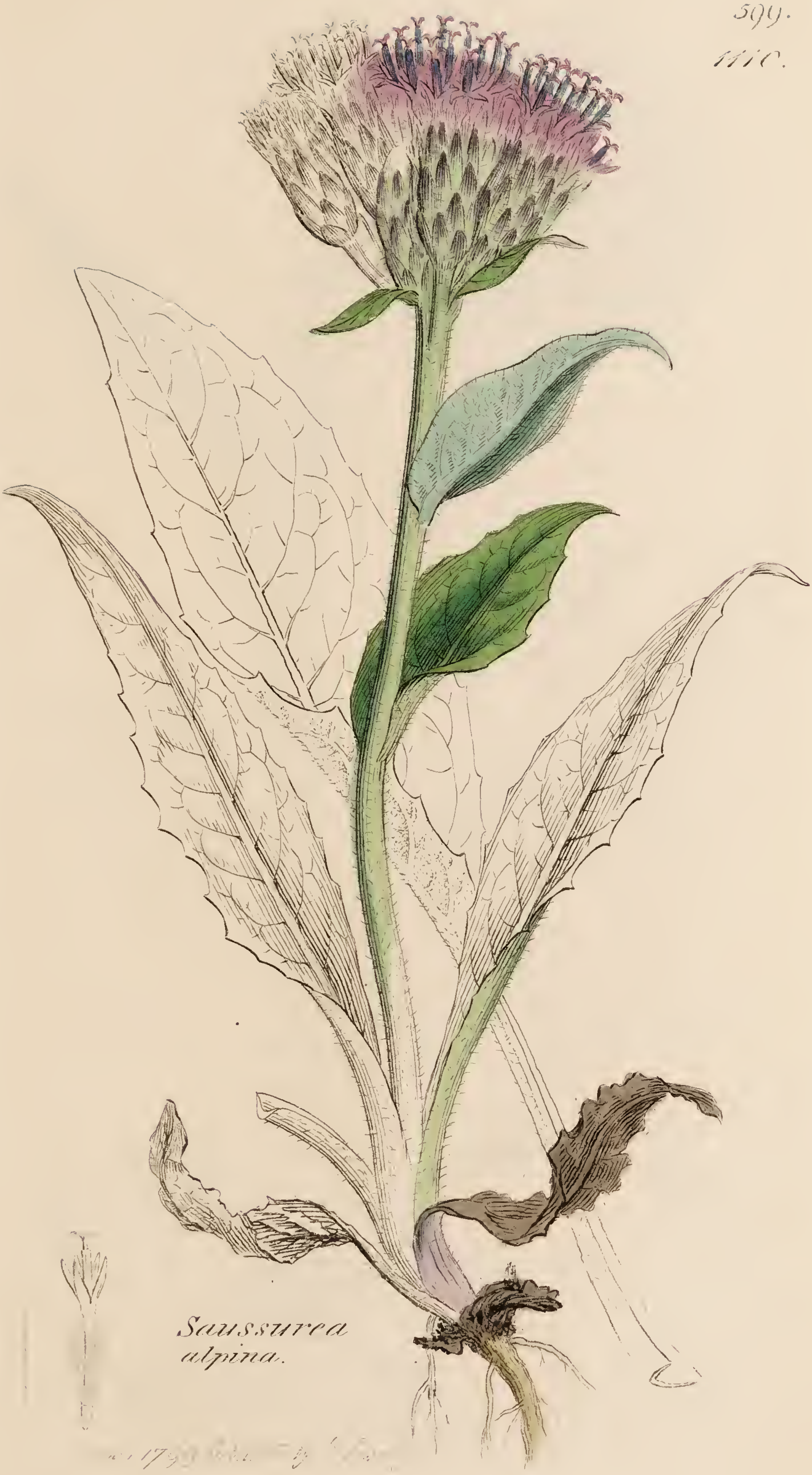
1109.



Serratula tinctoria.

Pub. by J.S. Nov. 1 1791.

599.
111c.

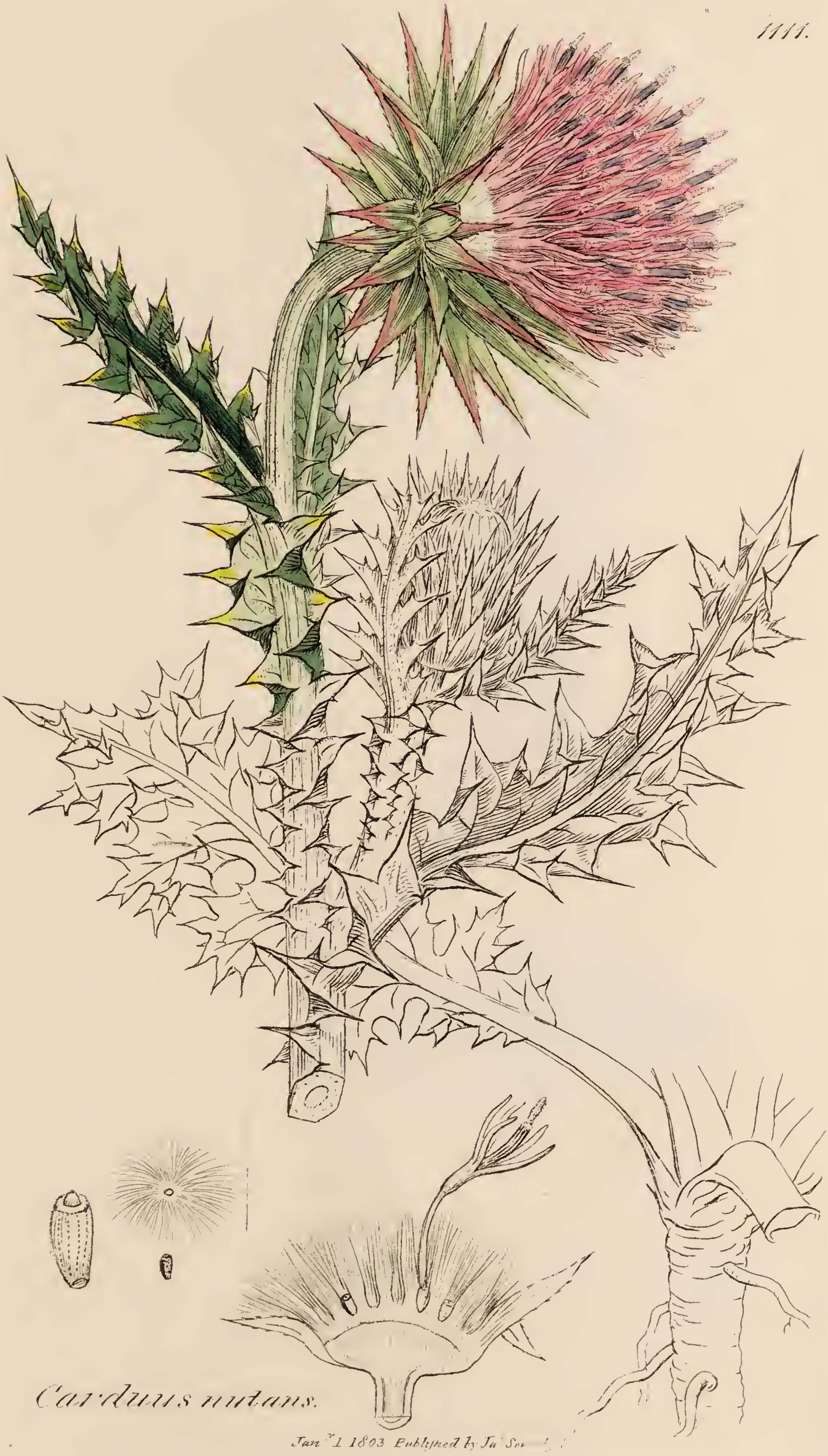


Saussurea alpina.

[illegible] 1799 [illegible]

1112

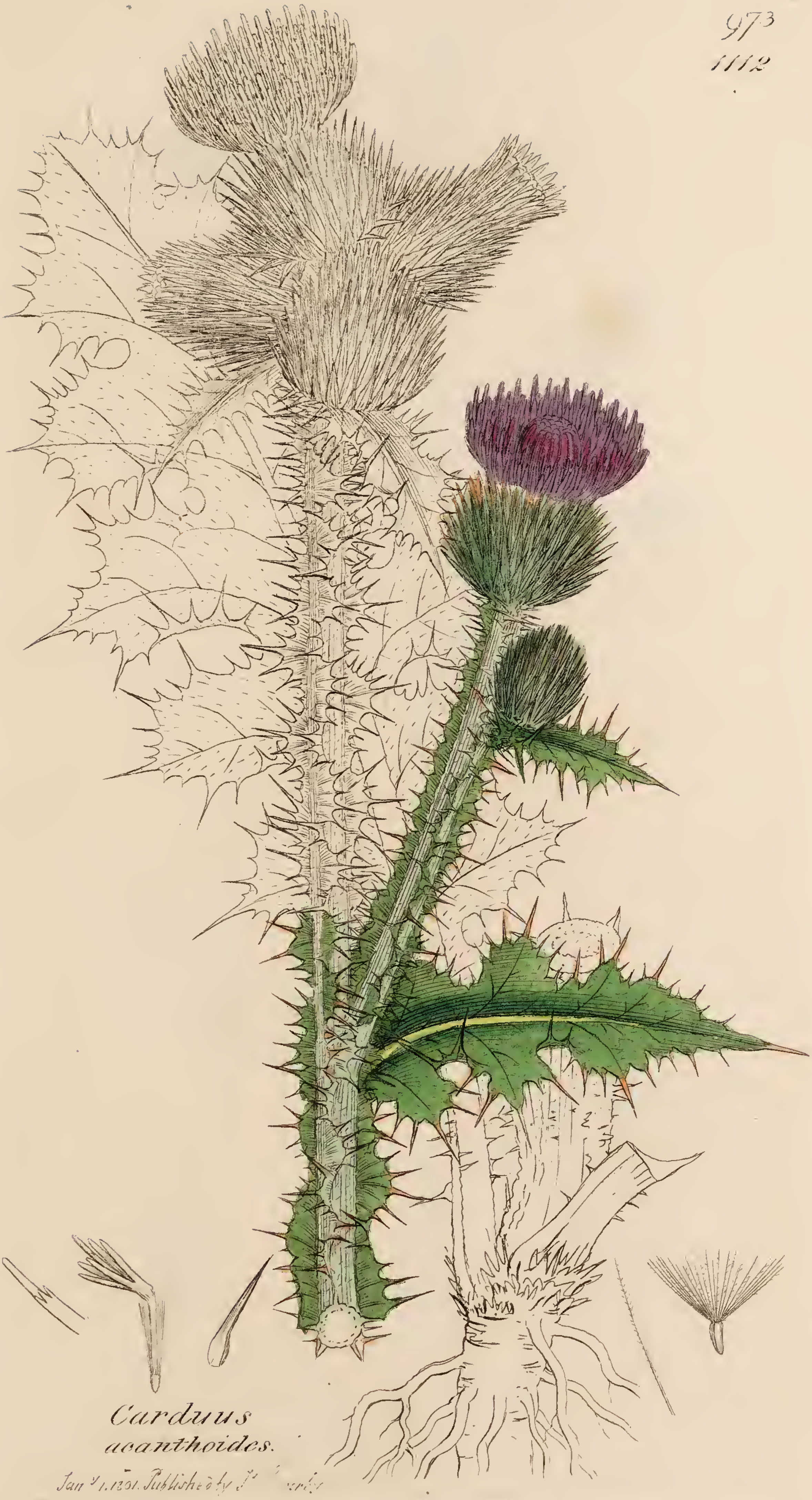
1111.



Carduus nutans.

Jan.y 1 1803 Publiſhed by Ja.s Sow

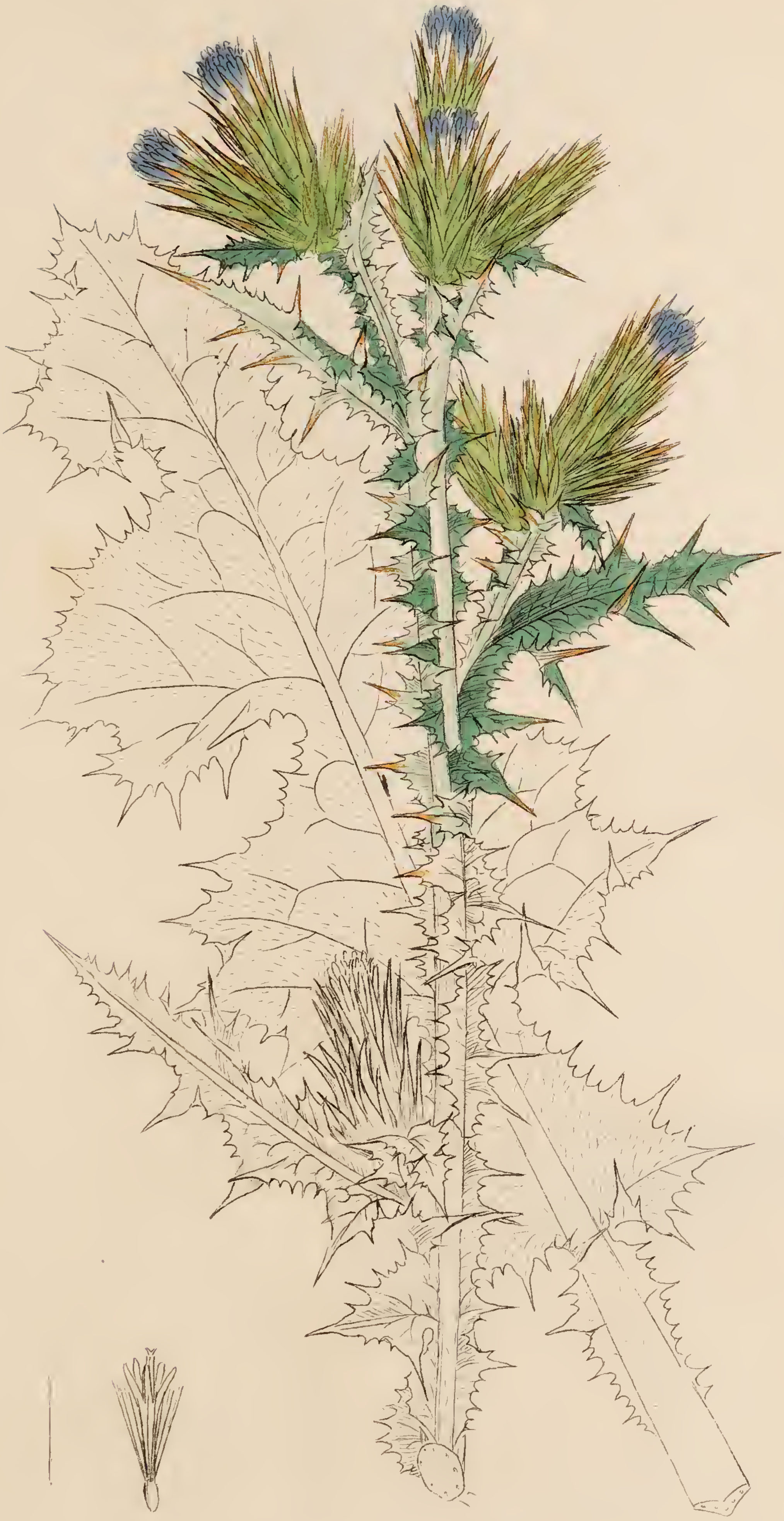
97^3
1112



Carduus
acanthoides.

Jan^y 1. 1801. Published by J^s Sowerby

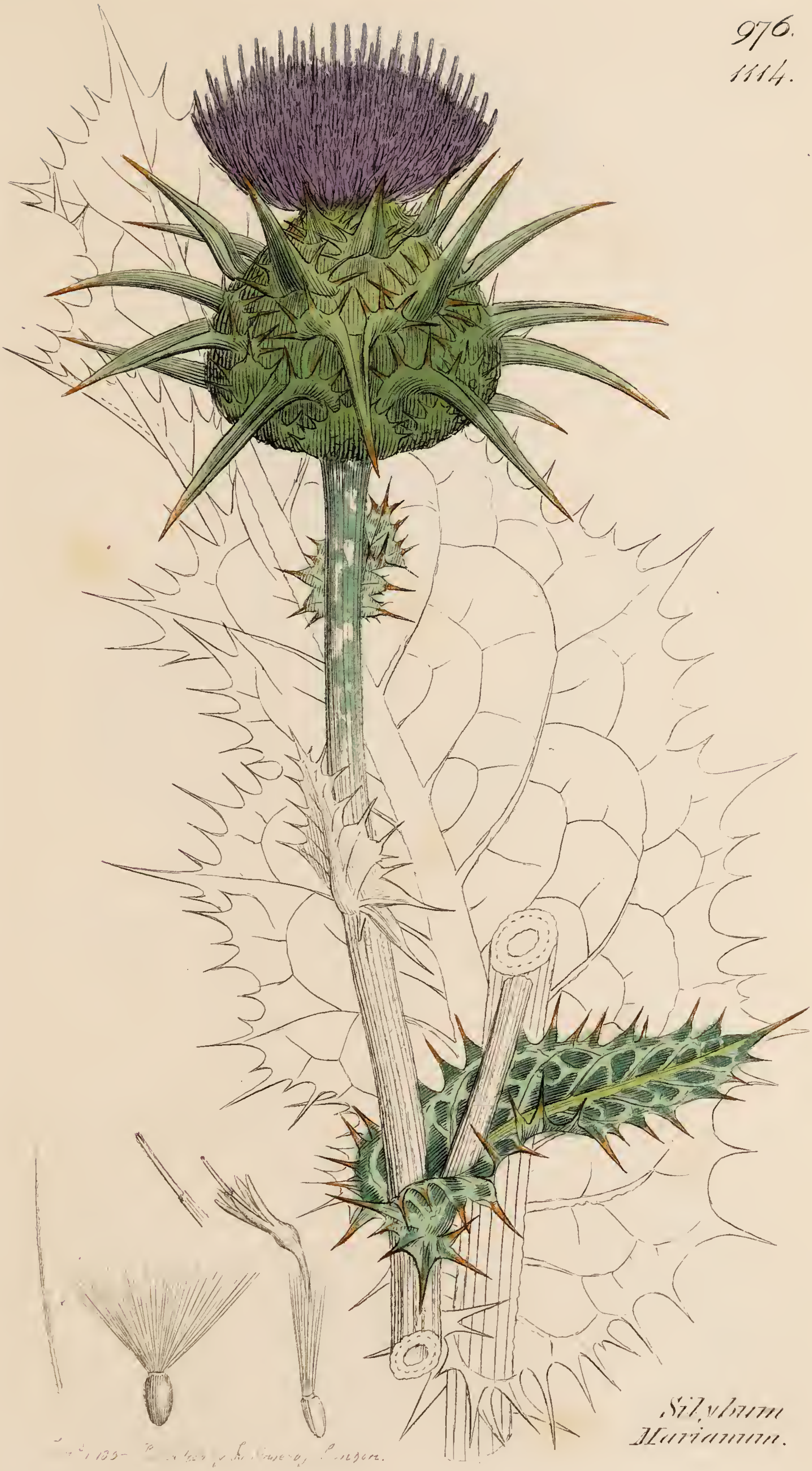
412
1113.



Carduus tenuiflorus.

[illegible] Published by Js Sowerby London.

976.
1114.

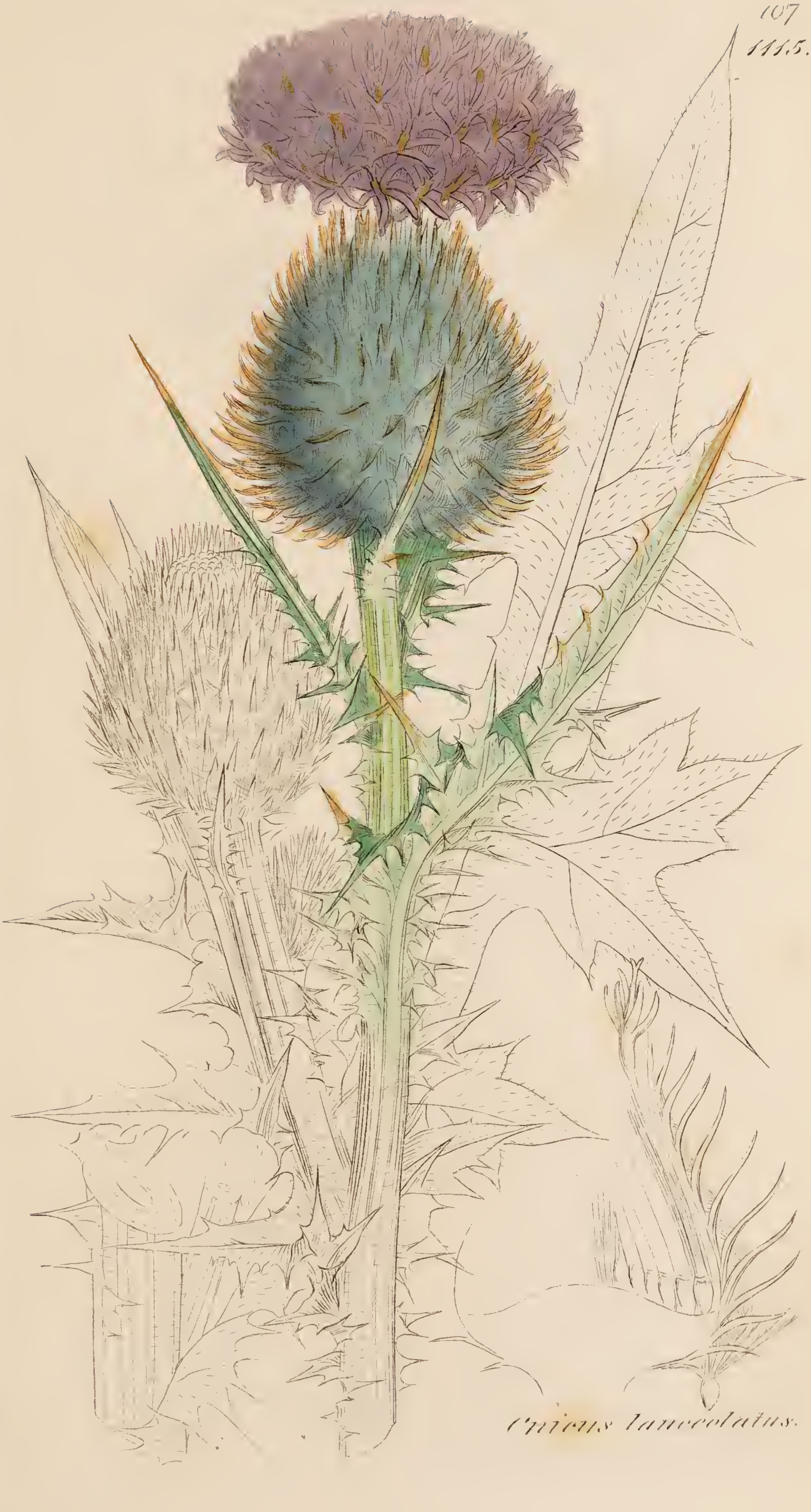


Silybum Marianum.

[illegible] Sowerby, London.

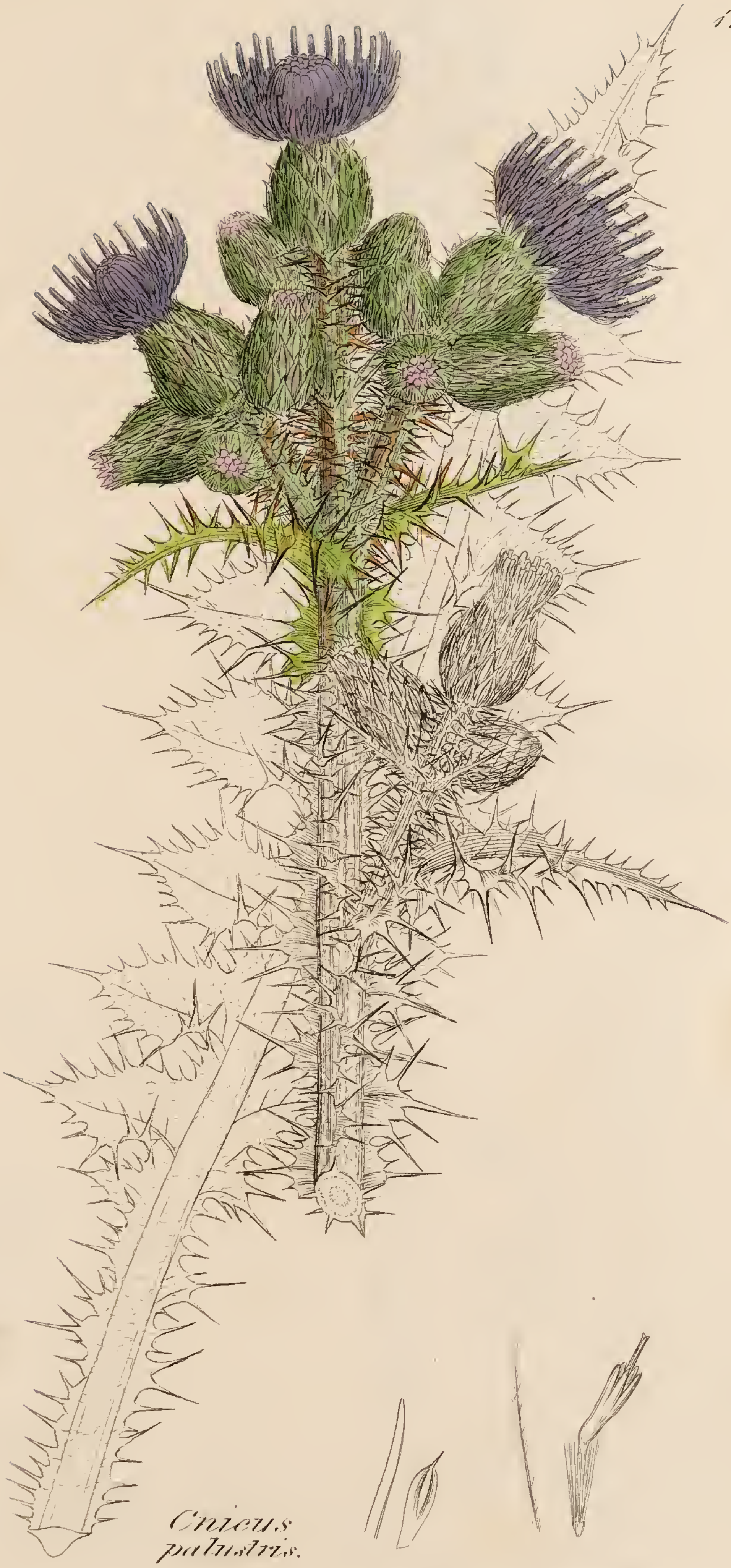
107

1115.



Cnicus lanceolatus.
]

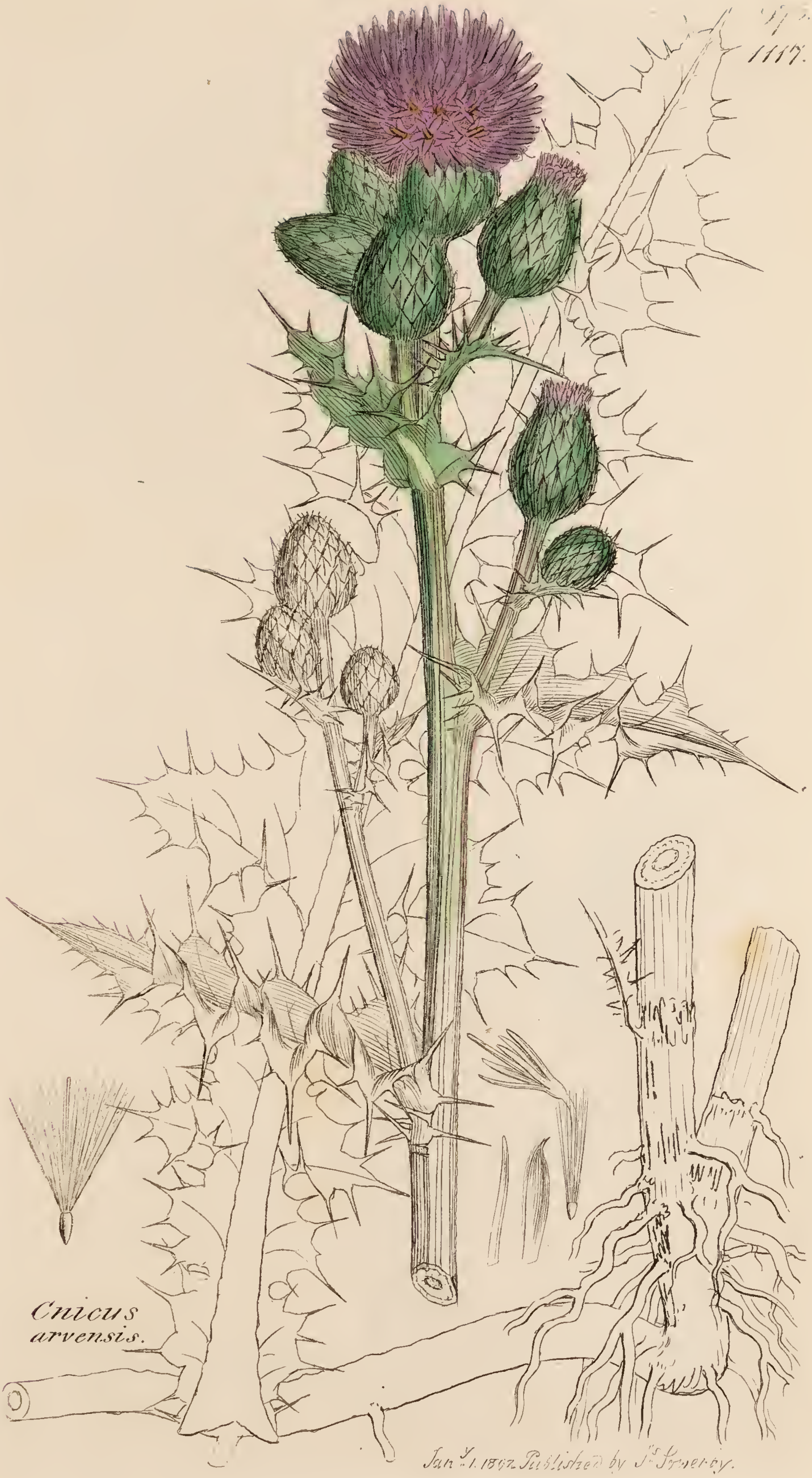
974
1116



Cnicus palustris.

[illegible] Published by [illegible]

975.
1117.

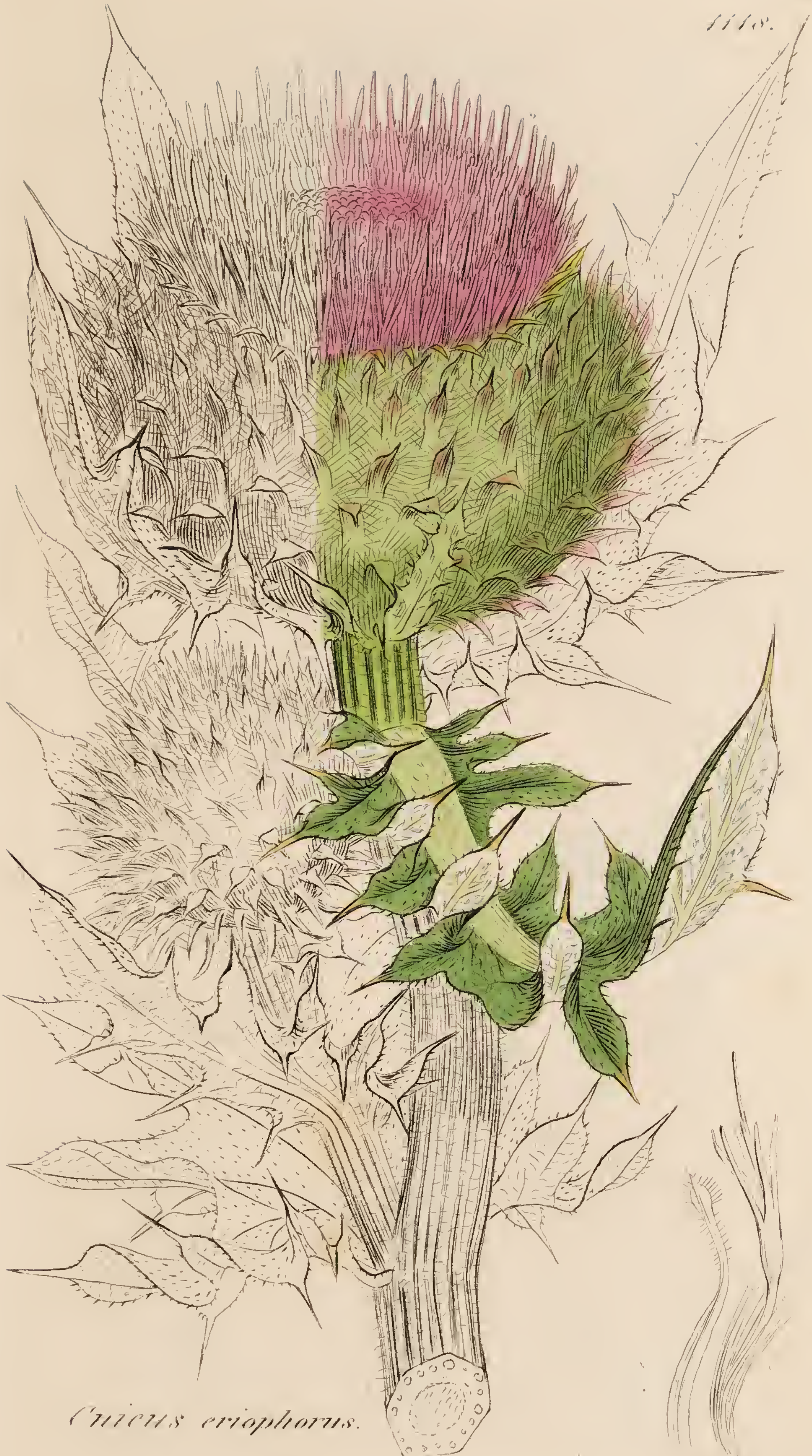


Cnicus arvensis.

Jan.y 1. 1802 Published by Js Sowerby.

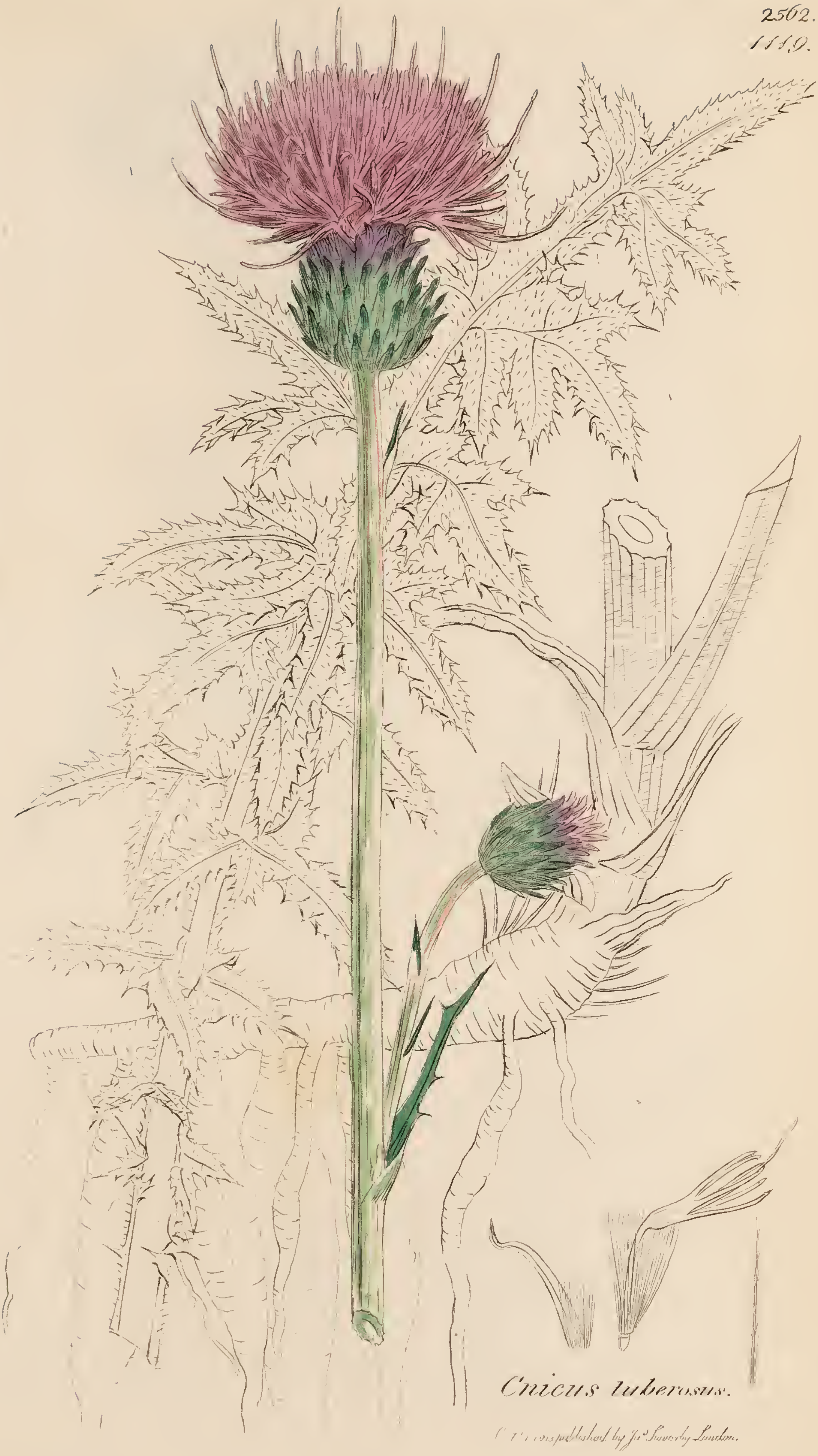
386

1118.



Cnicus eriophorus.

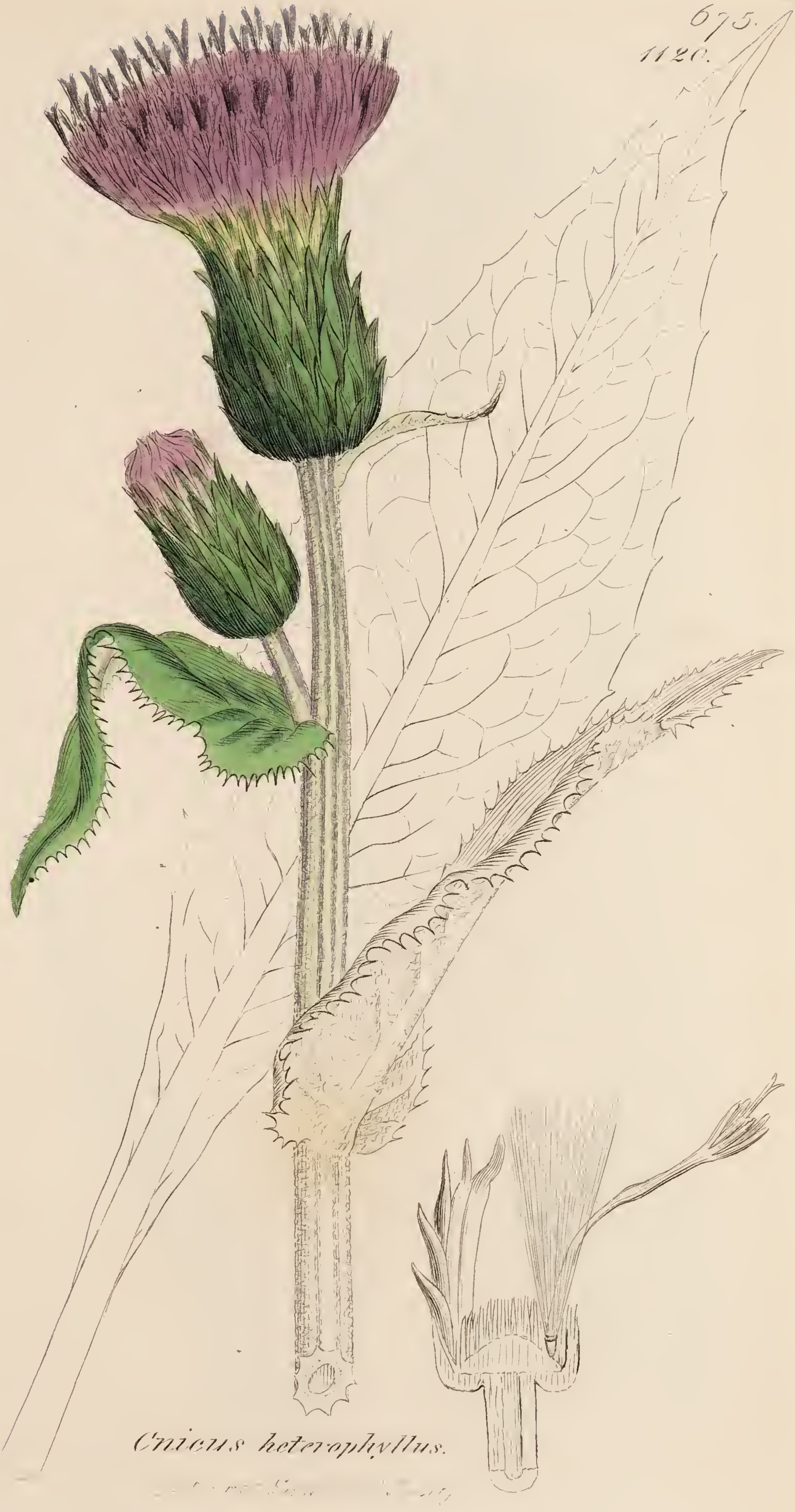
2562.
1119.



Cnicus tuberosus.

[illegible] published by Jas. Sowerby London.

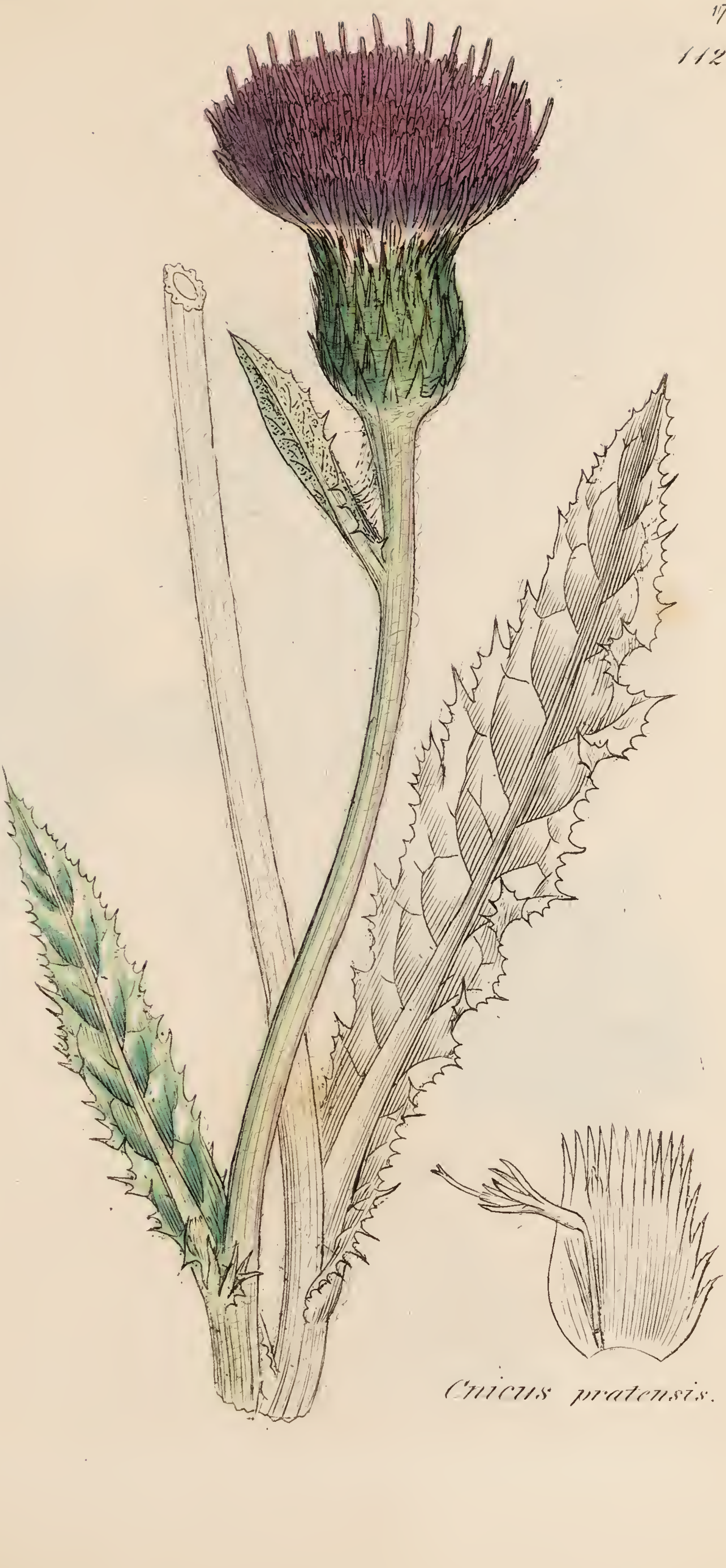
675.
1120.



Cnicus heterophyllus.

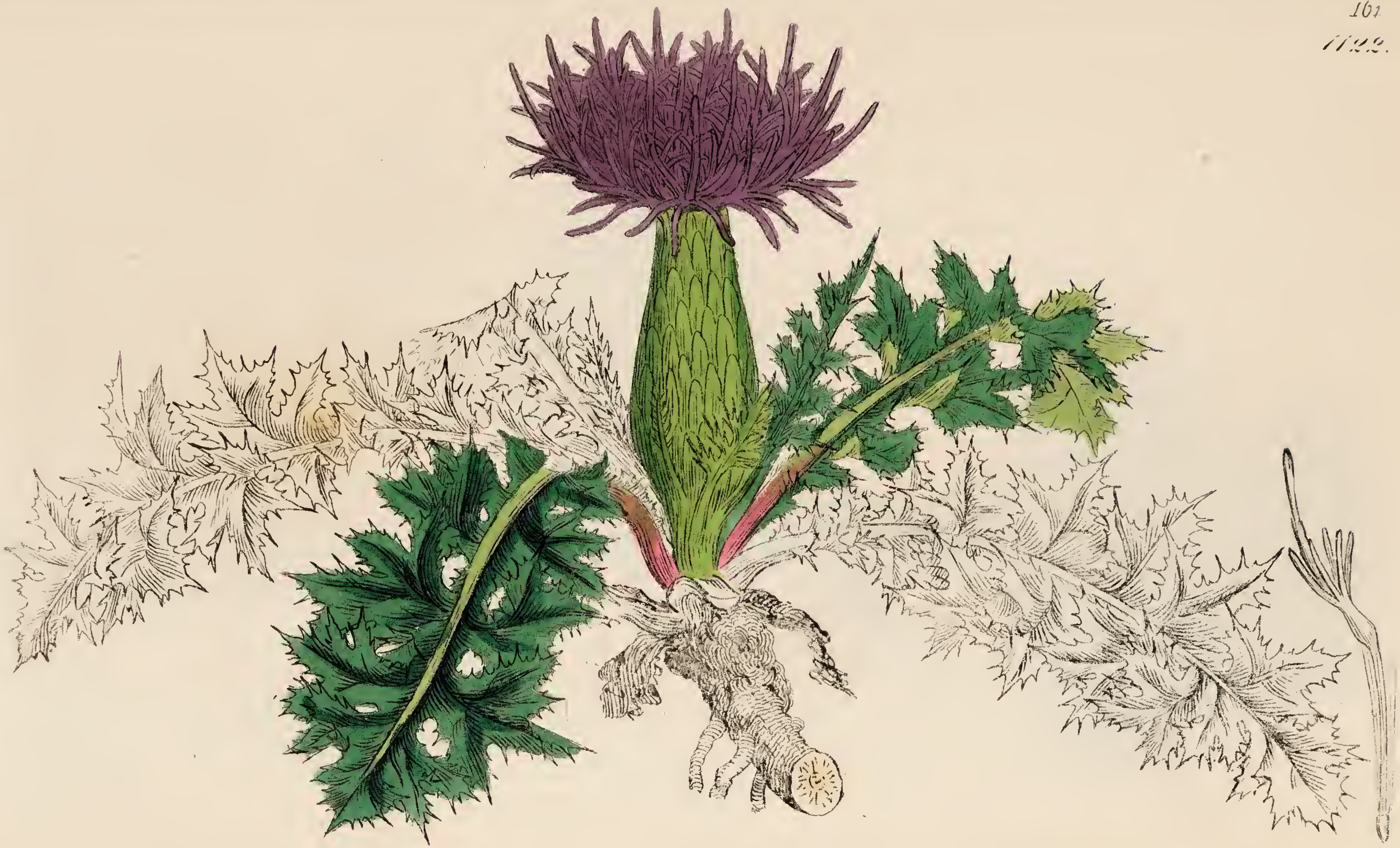
[illegible]

1121.



Cnicus pratensis.

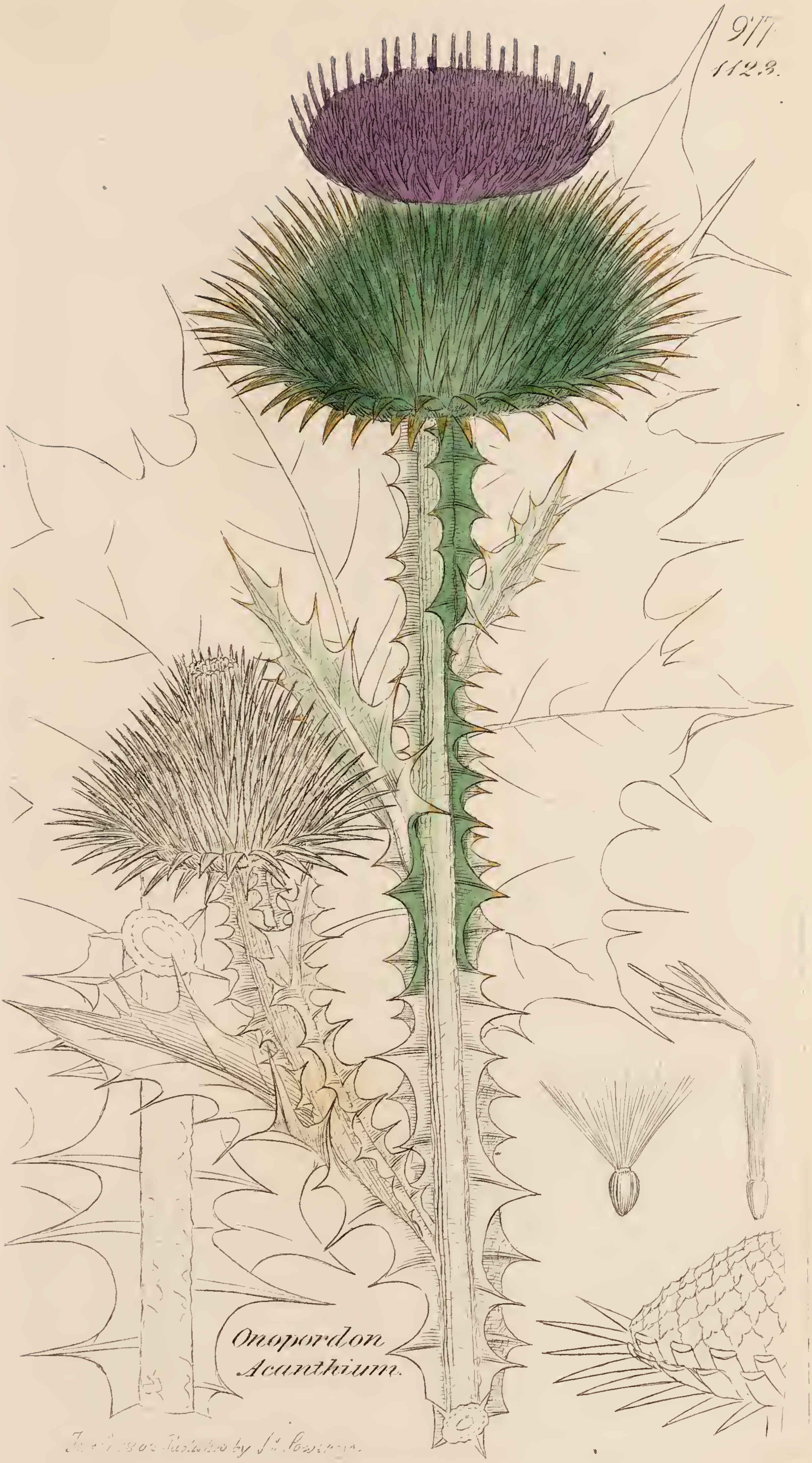
161
1122.



Cnicus acaulis.

J^{s} Sowerby del^{t} Ap. 1 1794

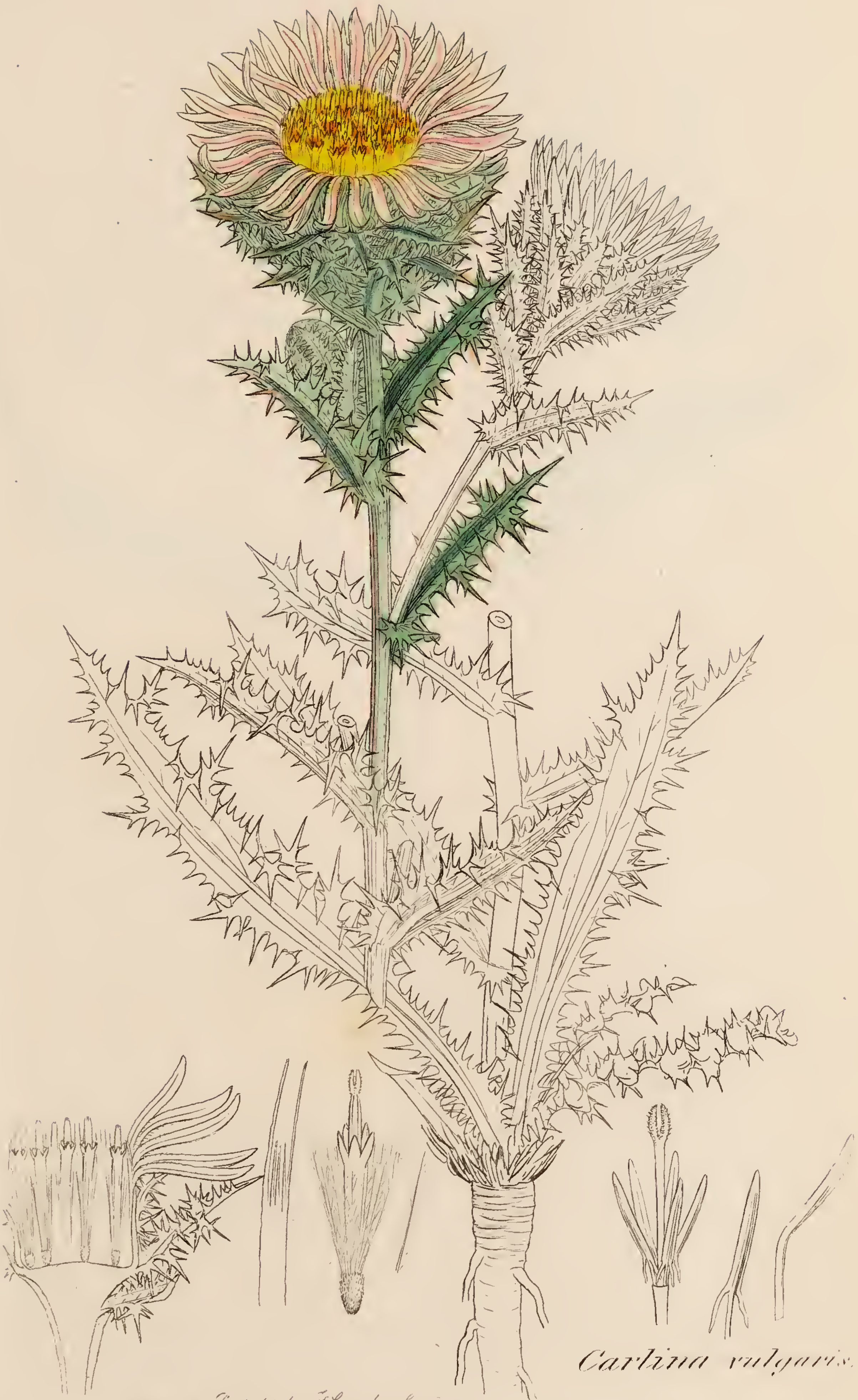
977.
1123.



Onopordon
Acanthium.

Jan. 1. 1802 Published by Jas Sowerby.

1144.
1124.

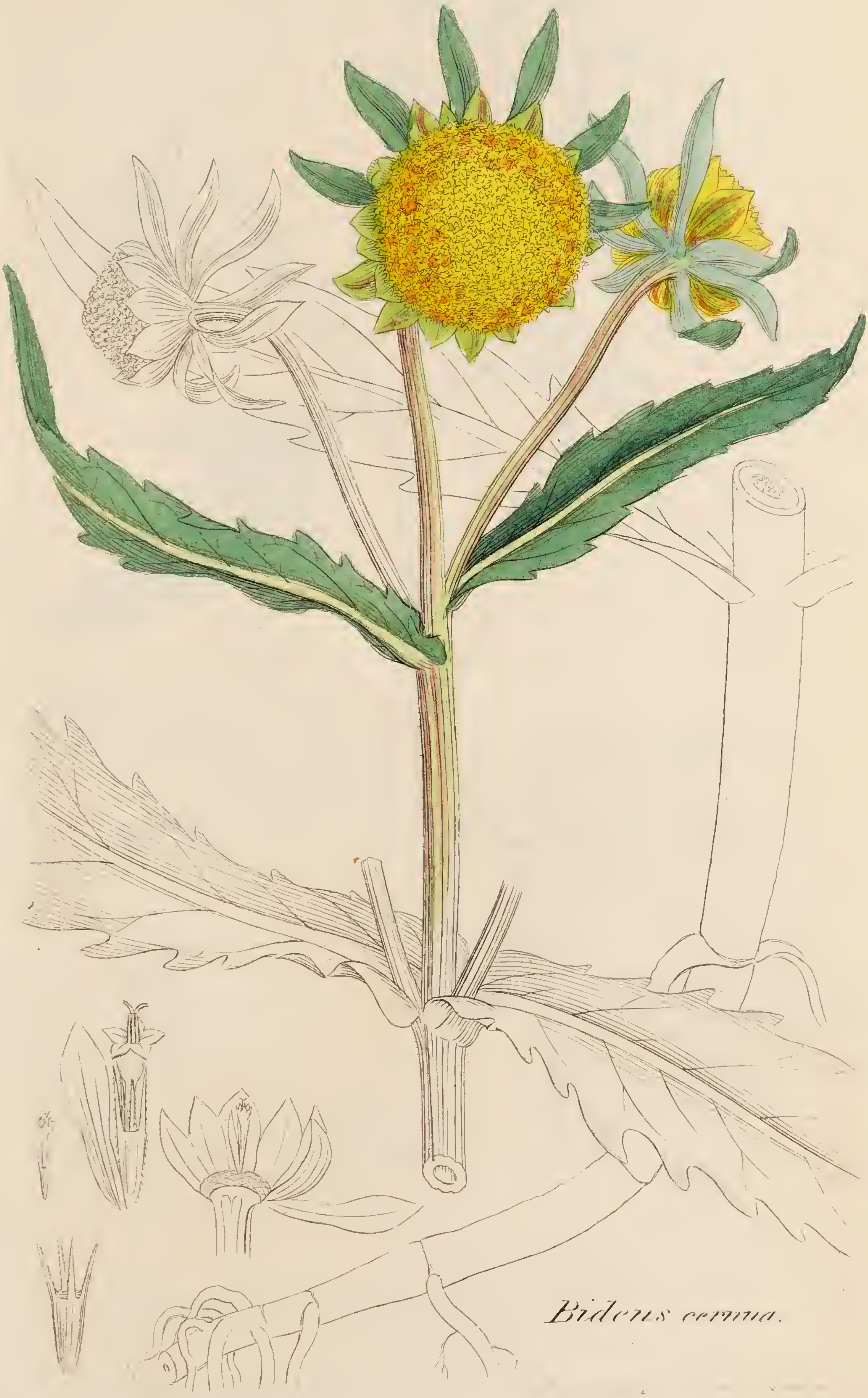


Carlina vulgaris.

[illegible] Published by J. Sowerby London.

1114

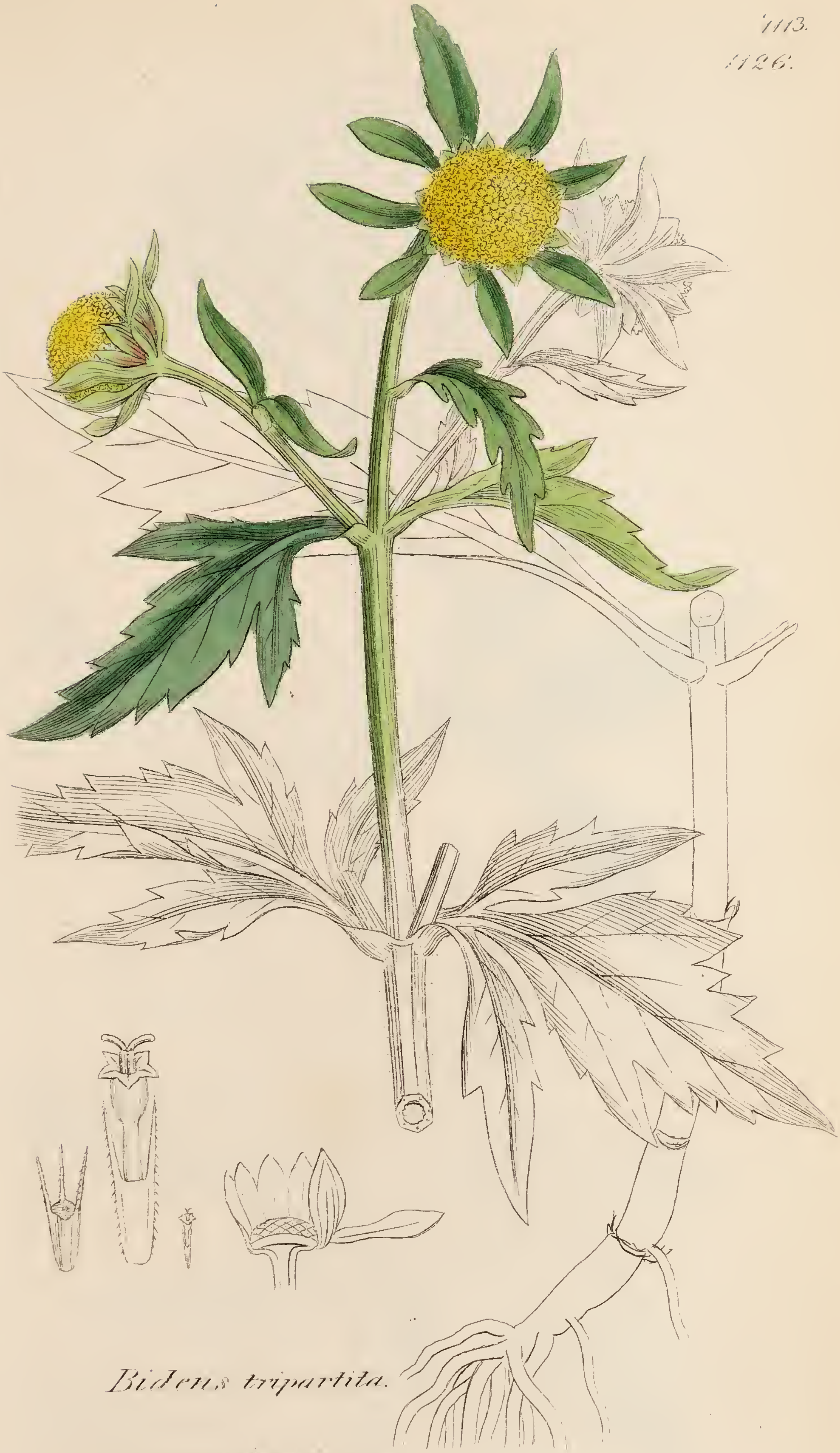
1125.



Bidens cernua.

1113.

1126.

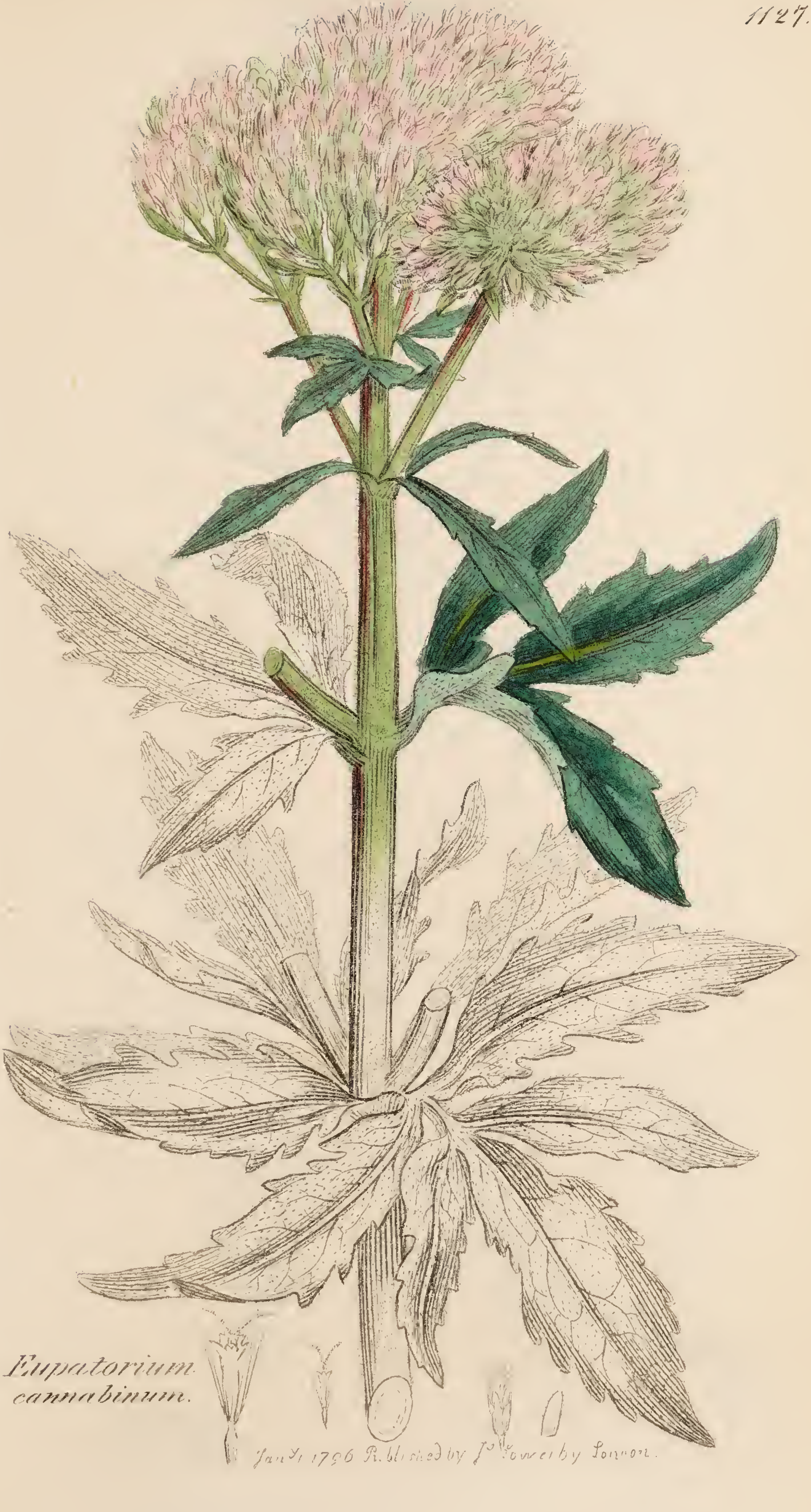


Bidens tripartita.

[illegible]

428.

1127.

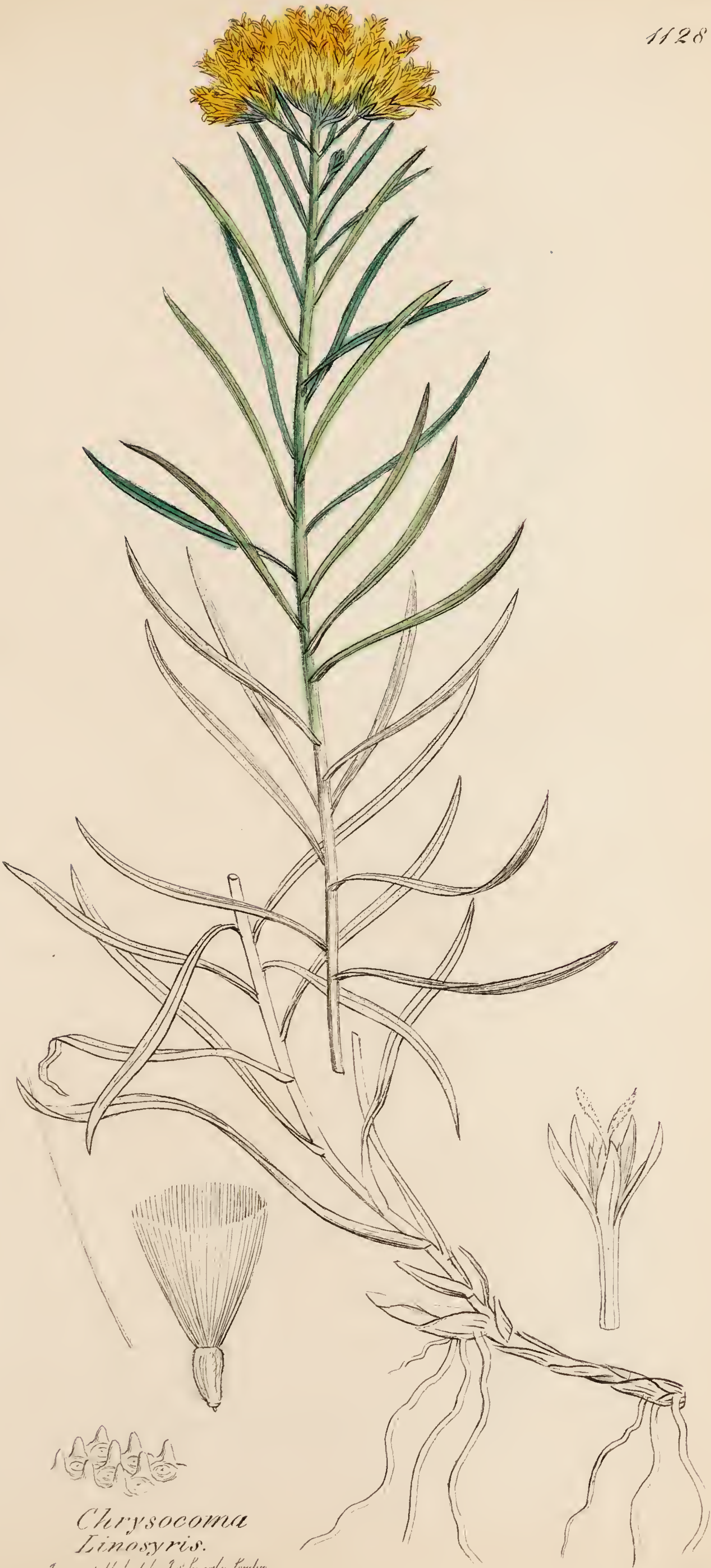


Eupatorium cannabinum.

Jany 1. 1796 Published by Js Sowerby London.

2505

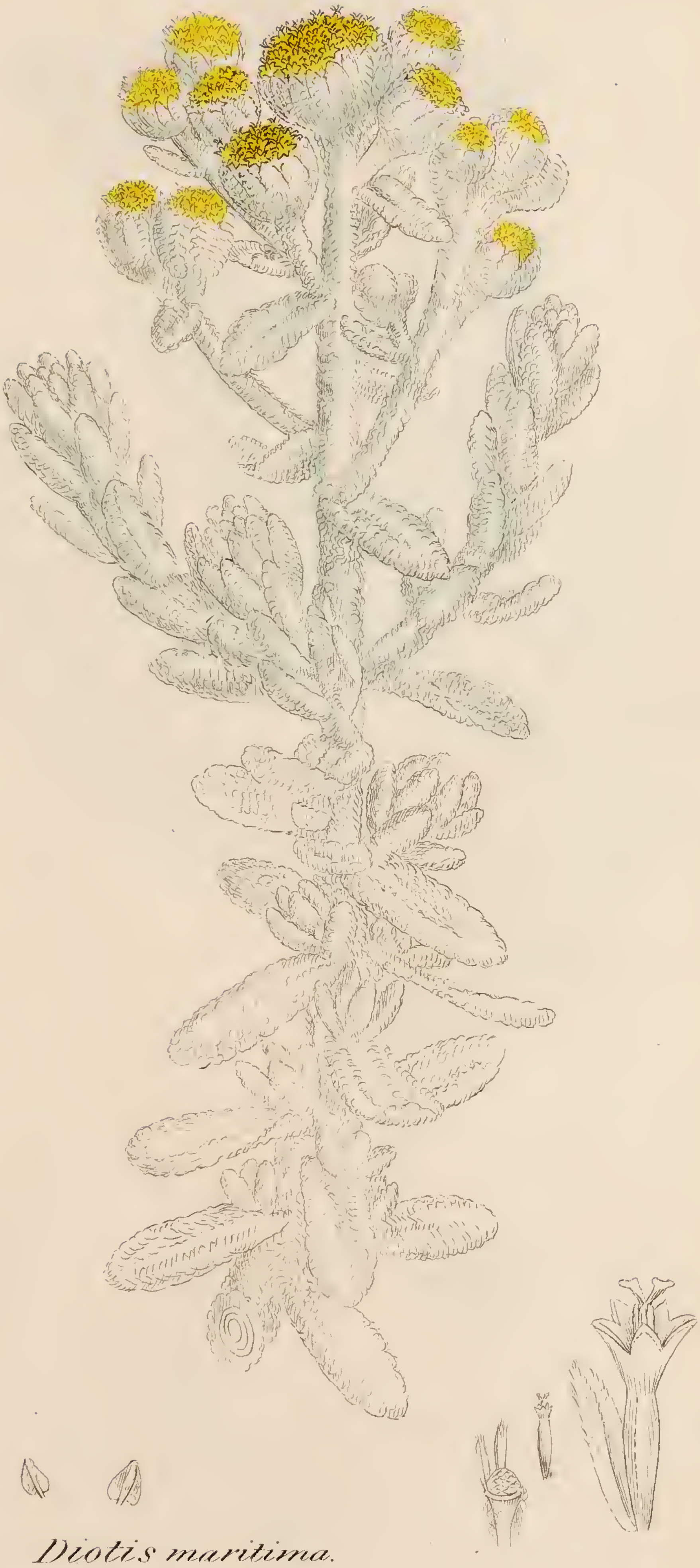
1128.



Chrysocoma
Linosyris.

Jan 1 1803 published by Jas Sowerby London.

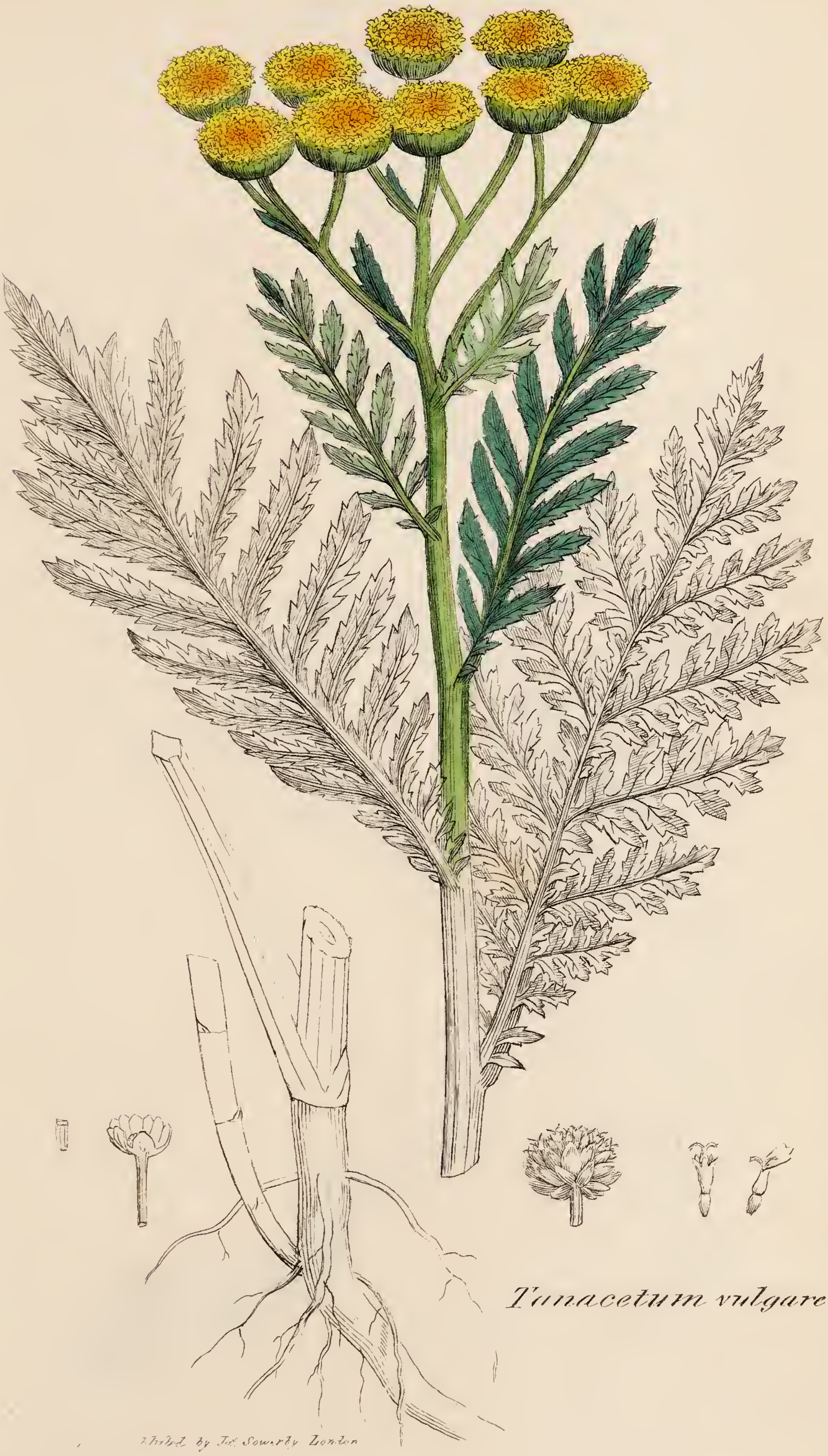
1129.



Diotis maritima.

1229

1130.

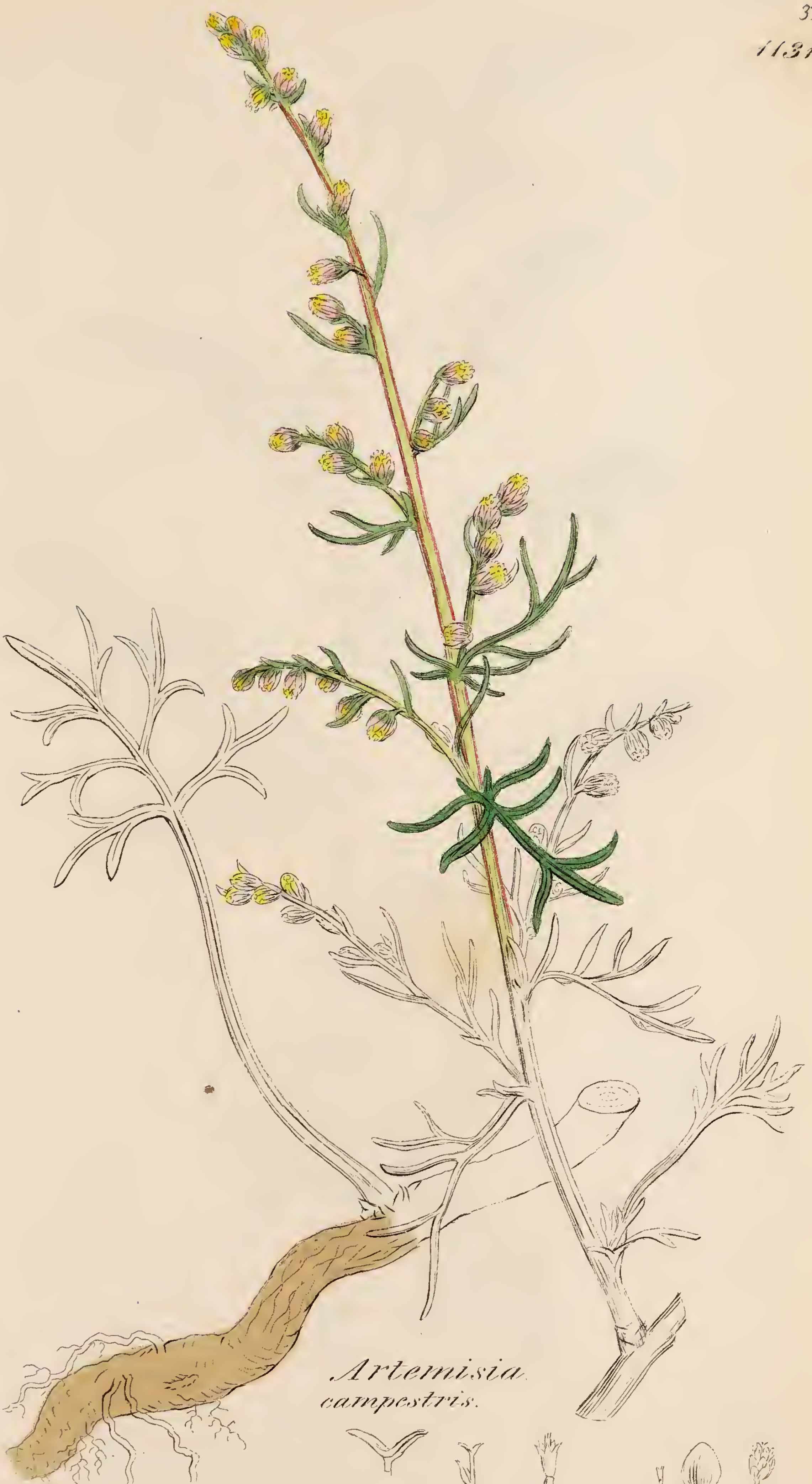


Tanacetum vulgare.

Printed by Jas. Sowerby London

338.

1131.

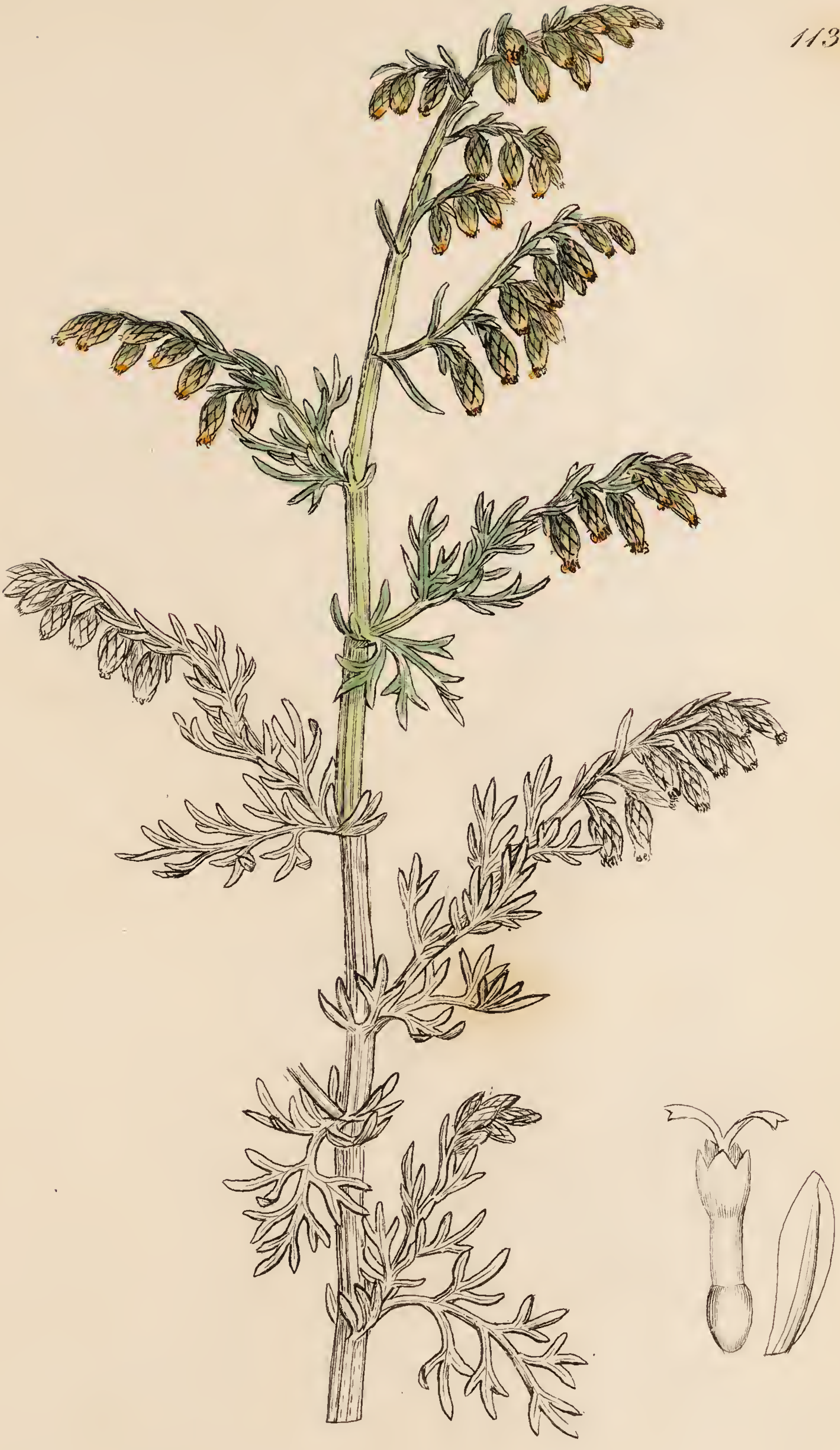


Artemisia campestris.

[illegible] 1 1803 [illegible]

1706

1132.

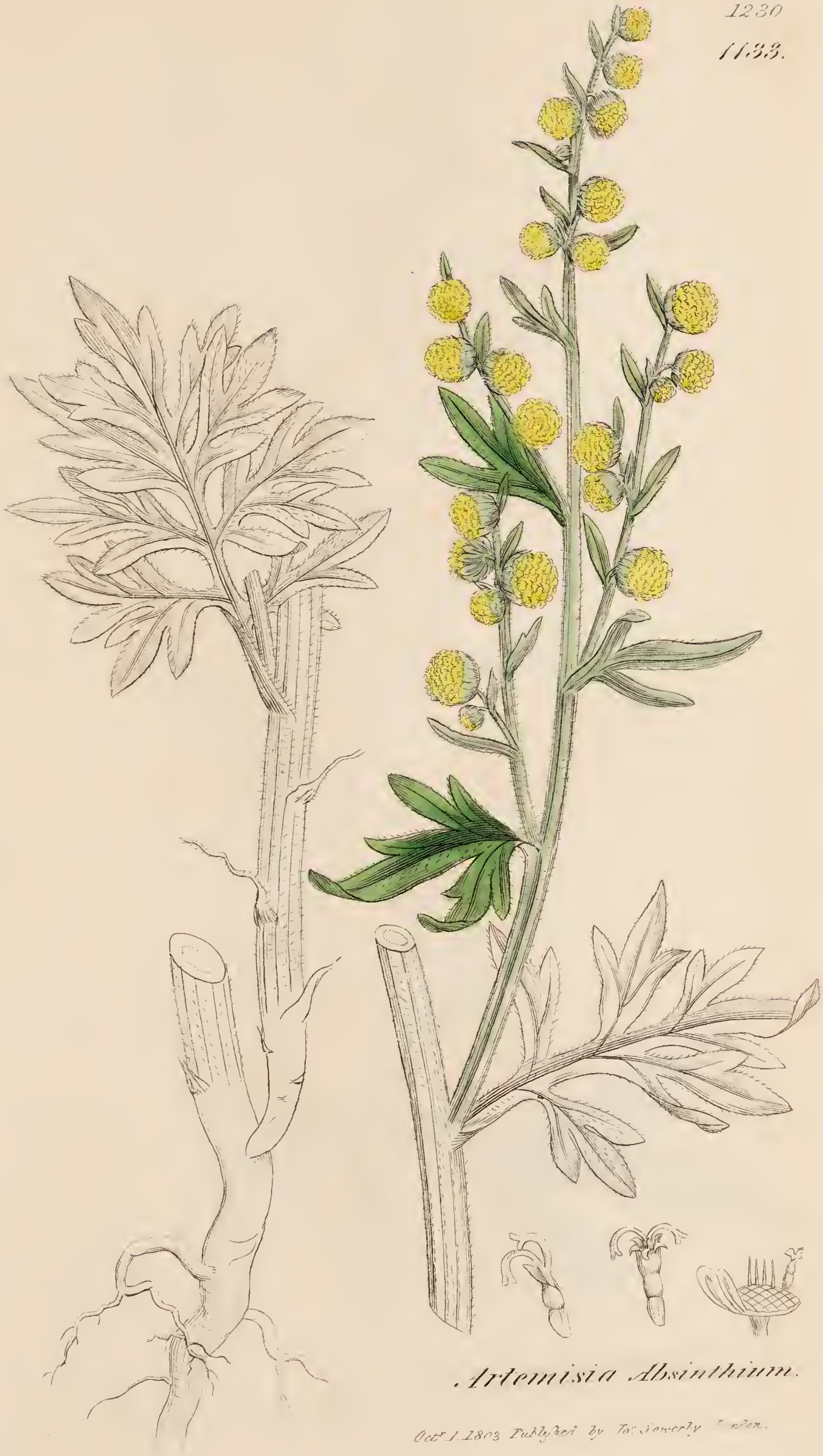


Artemisia maritima.

Feb.2.1807.Publish'd by Jas. Sowerby London.

1230

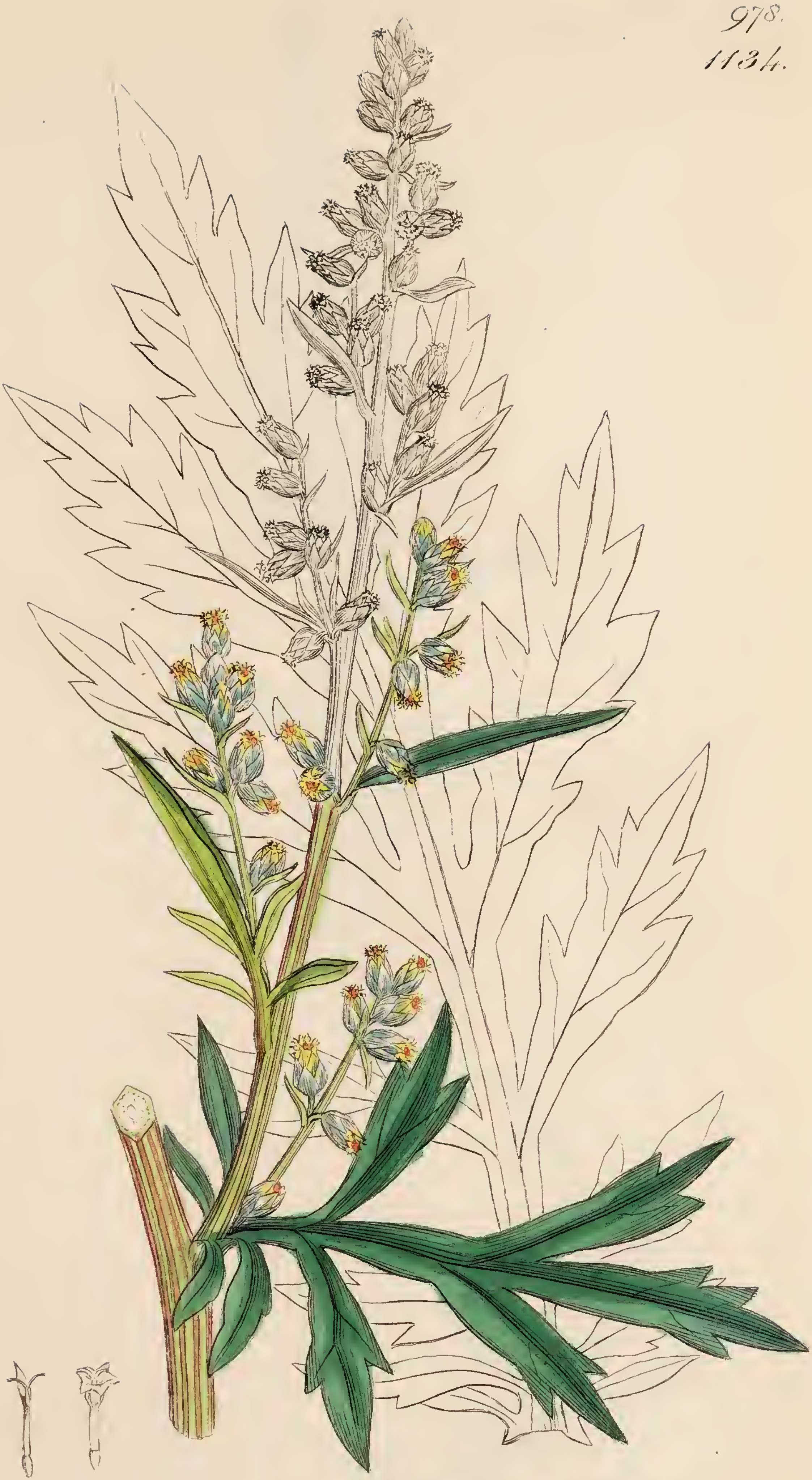
1133.



Artemisia Absinthium.

Octr 1. 1803 Publiſhed by Ja: Sowerby London.

978.
1134.

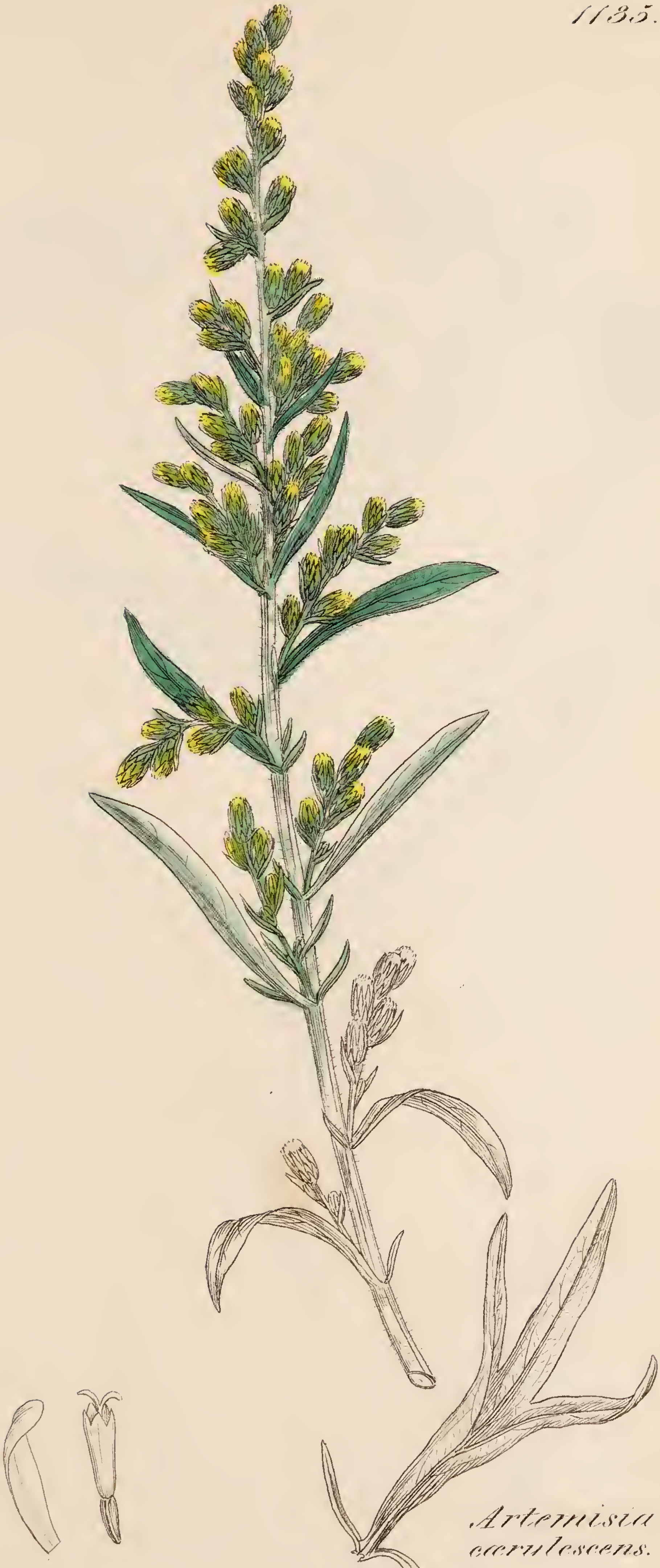


Artemisia vulgaris.

[illegible]

2426.

1135.

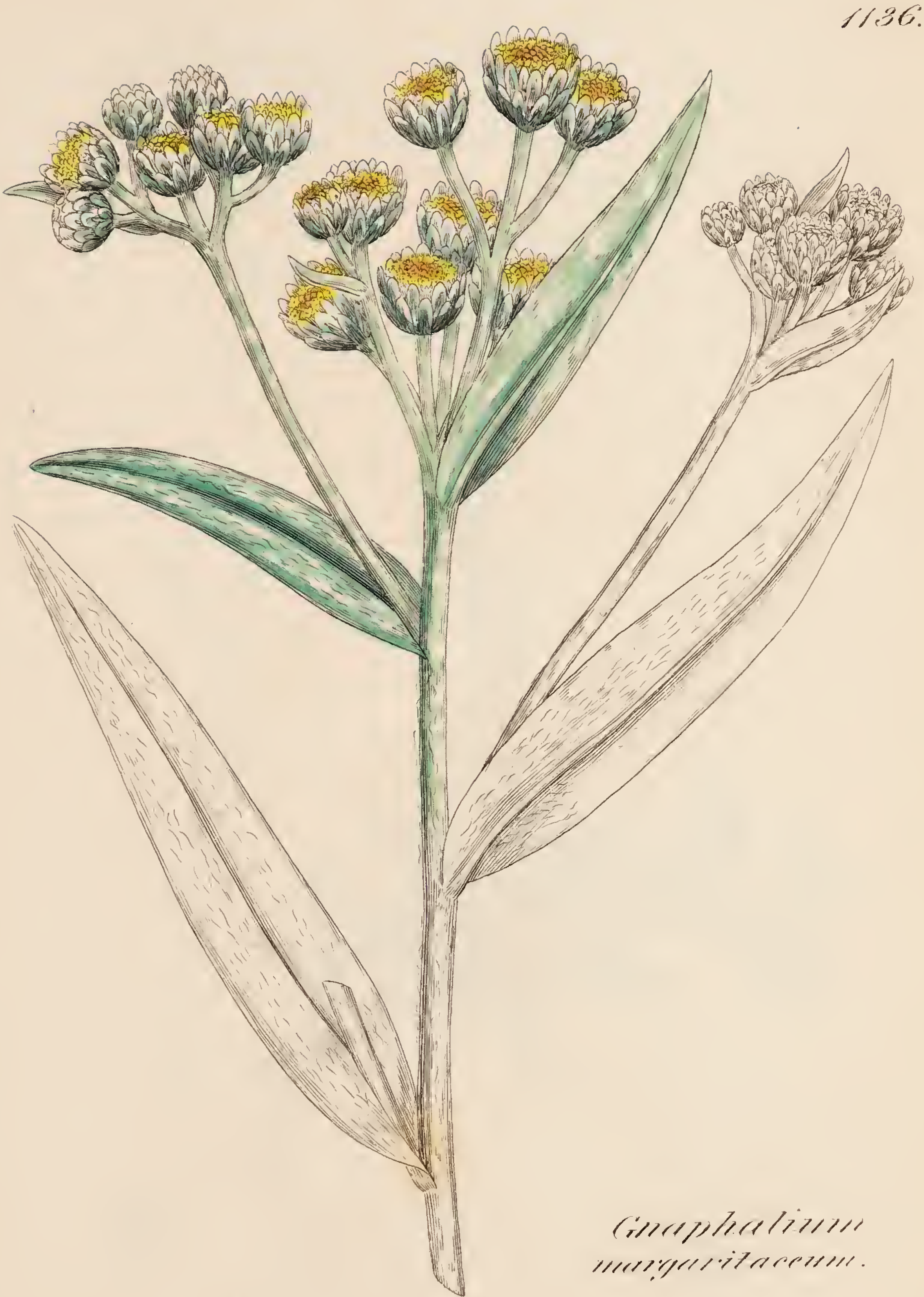


Artemisia cærulescens.

June 1. 1812 published by Jas. Sowerby London

2018

1136.

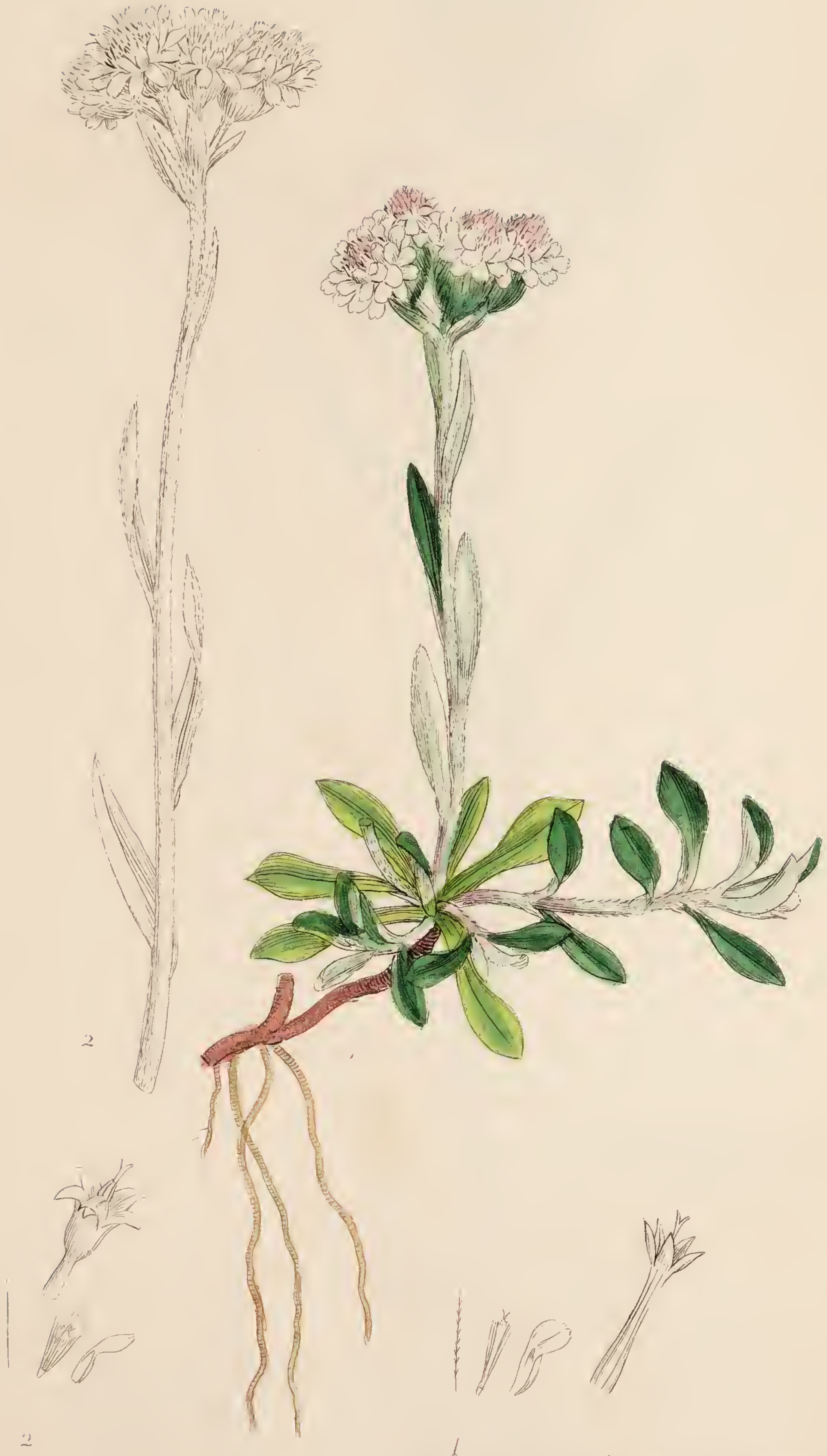


Gnaphalium margaritaceum.

May 1,1809, Published by J.Sowerby London.

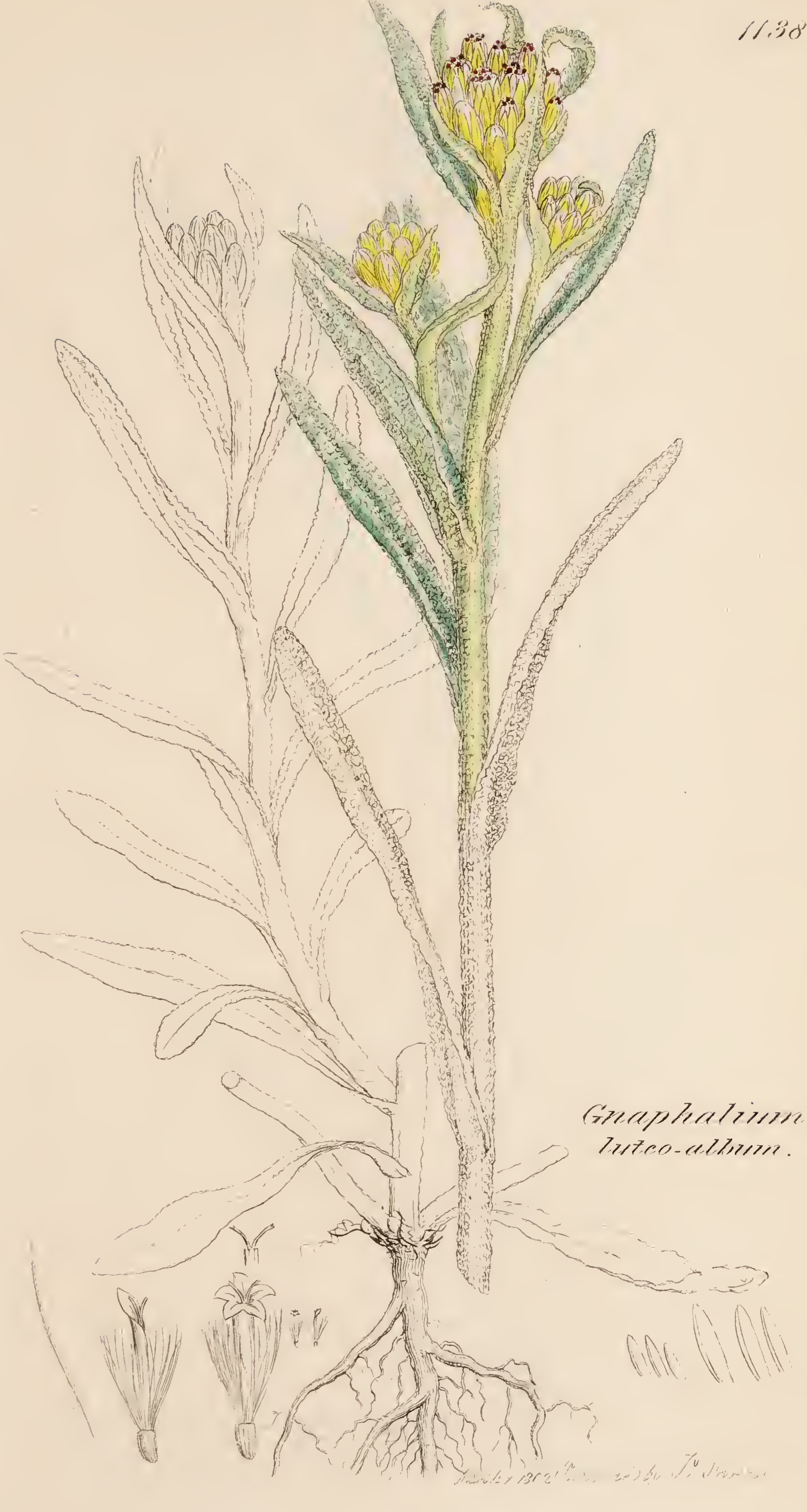
267

1137.



Gnaphalium dioicum.

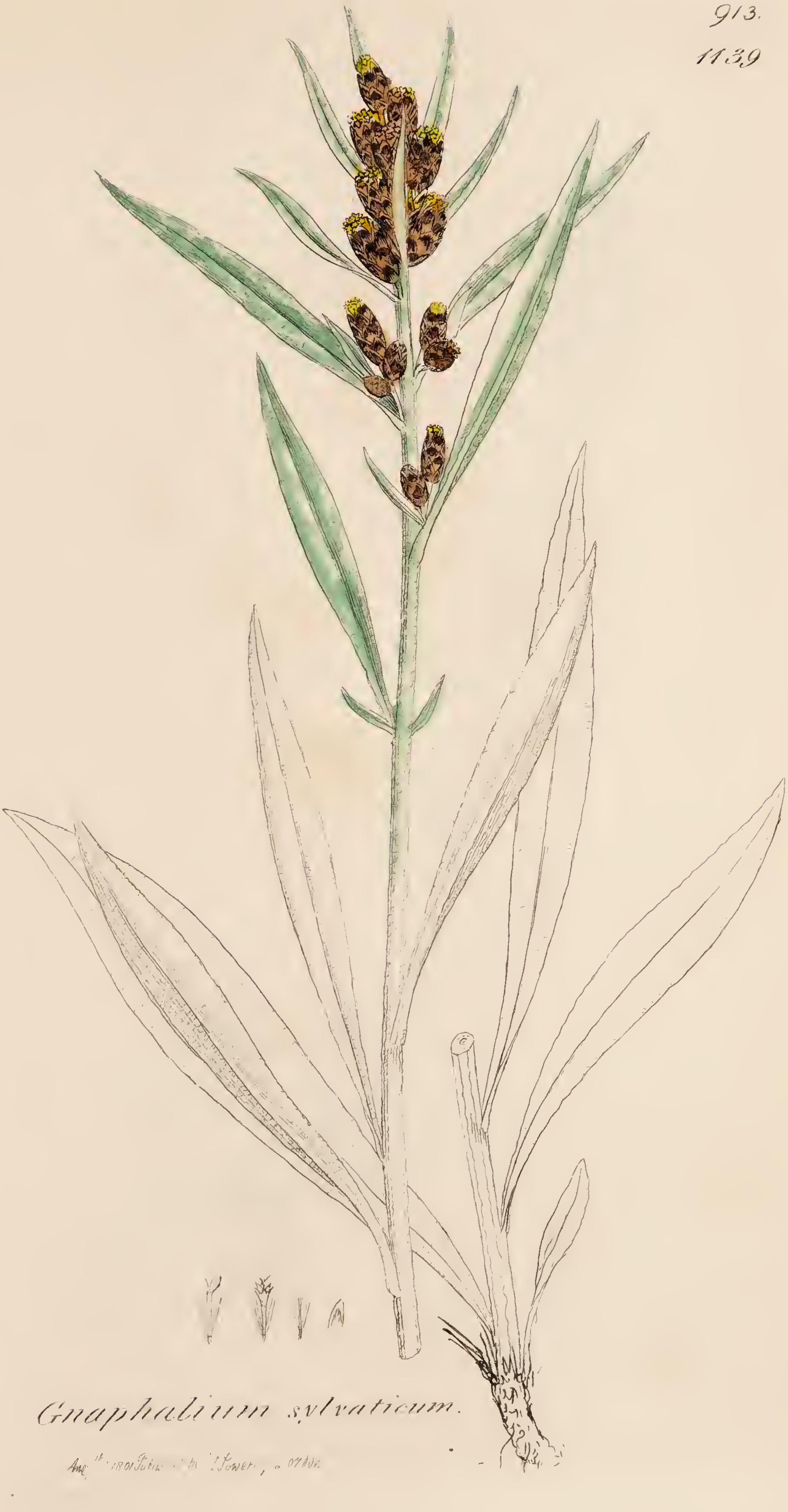
1002.
1138.



Gnaphalium
luteo-album.

[illegible] 1802 [illegible] by Js Sowerby

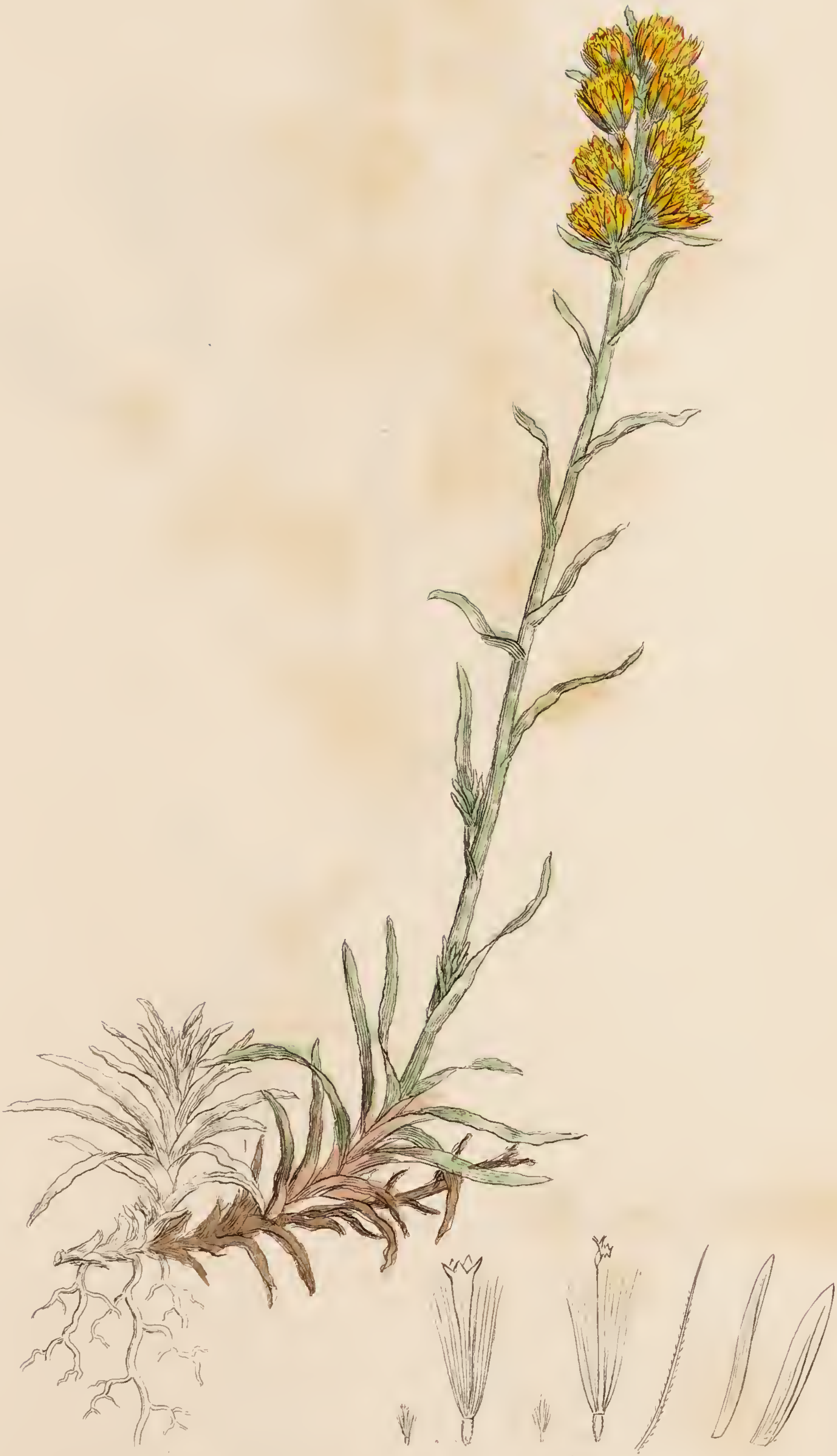
913.
1139



Gnaphalium sylvaticum.

Aug 1st 1801 Publish'd by J. Sowerby, London

1193
1140.

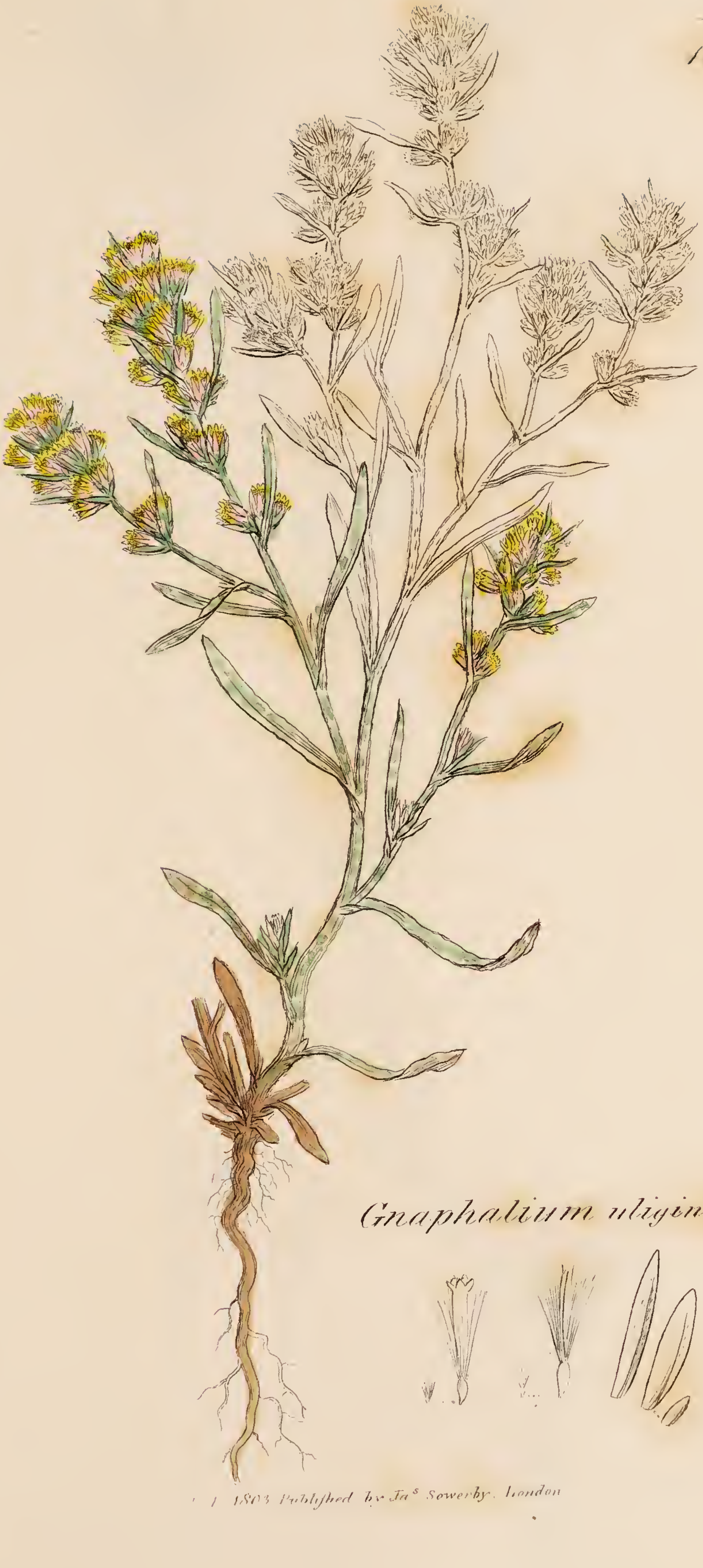


Gnaphalium supinum.

July 1. 1803 Publiſhd by Jas Sowerby London

1194

1141.

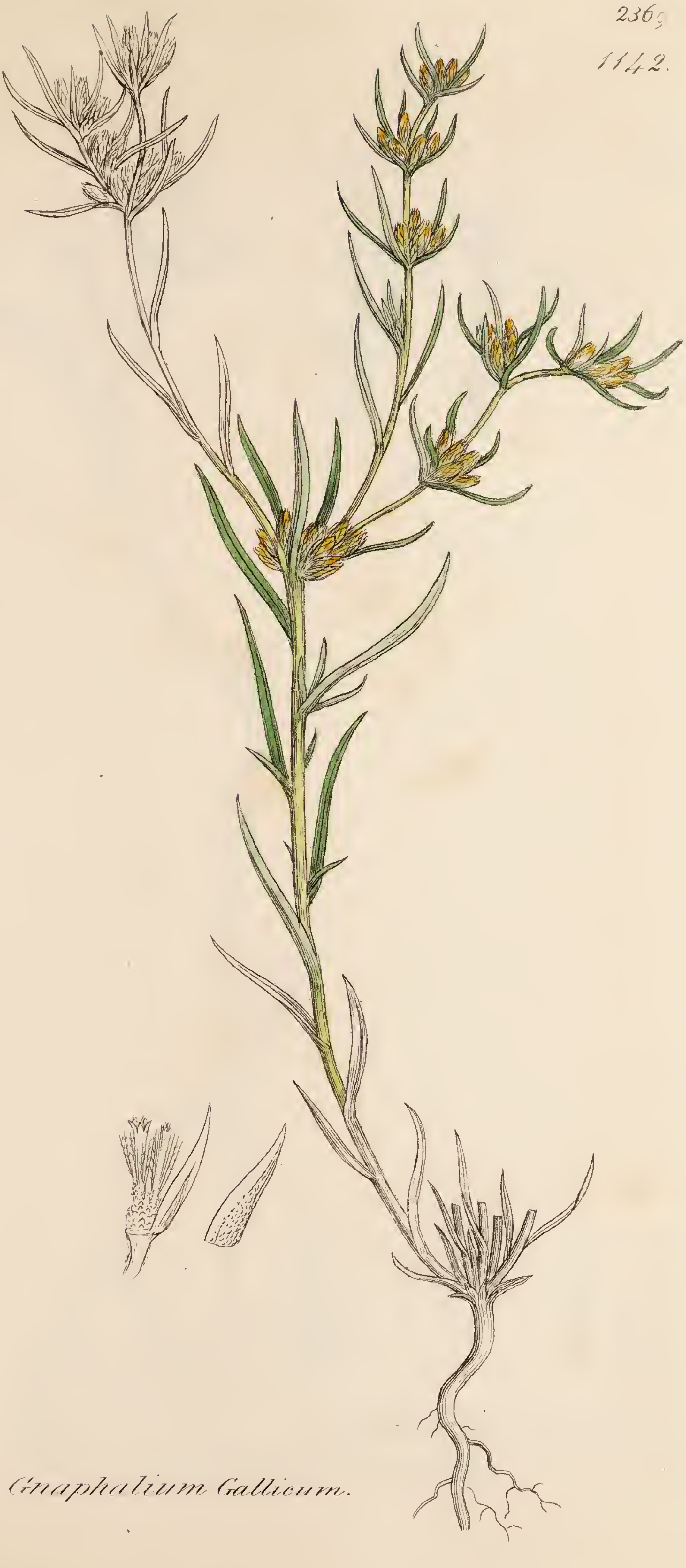


Gnaphalium uliginosum.

1 1803 Publiſhed by Ja^s Sowerby. London

2369

1142.

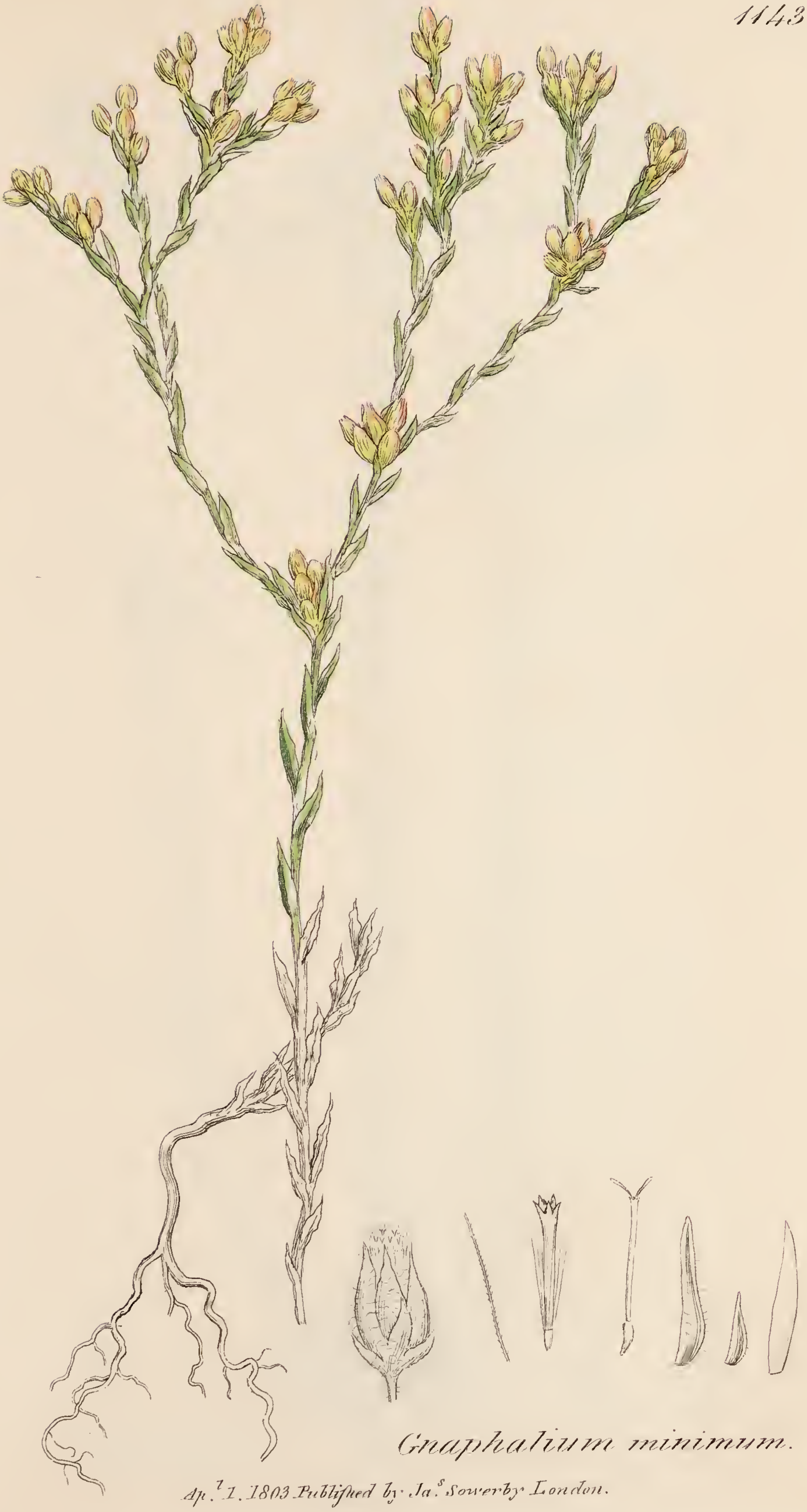


Gnaphalium Gallicum.

Jan. 1812 published by Jas. Sowerby London.

1157

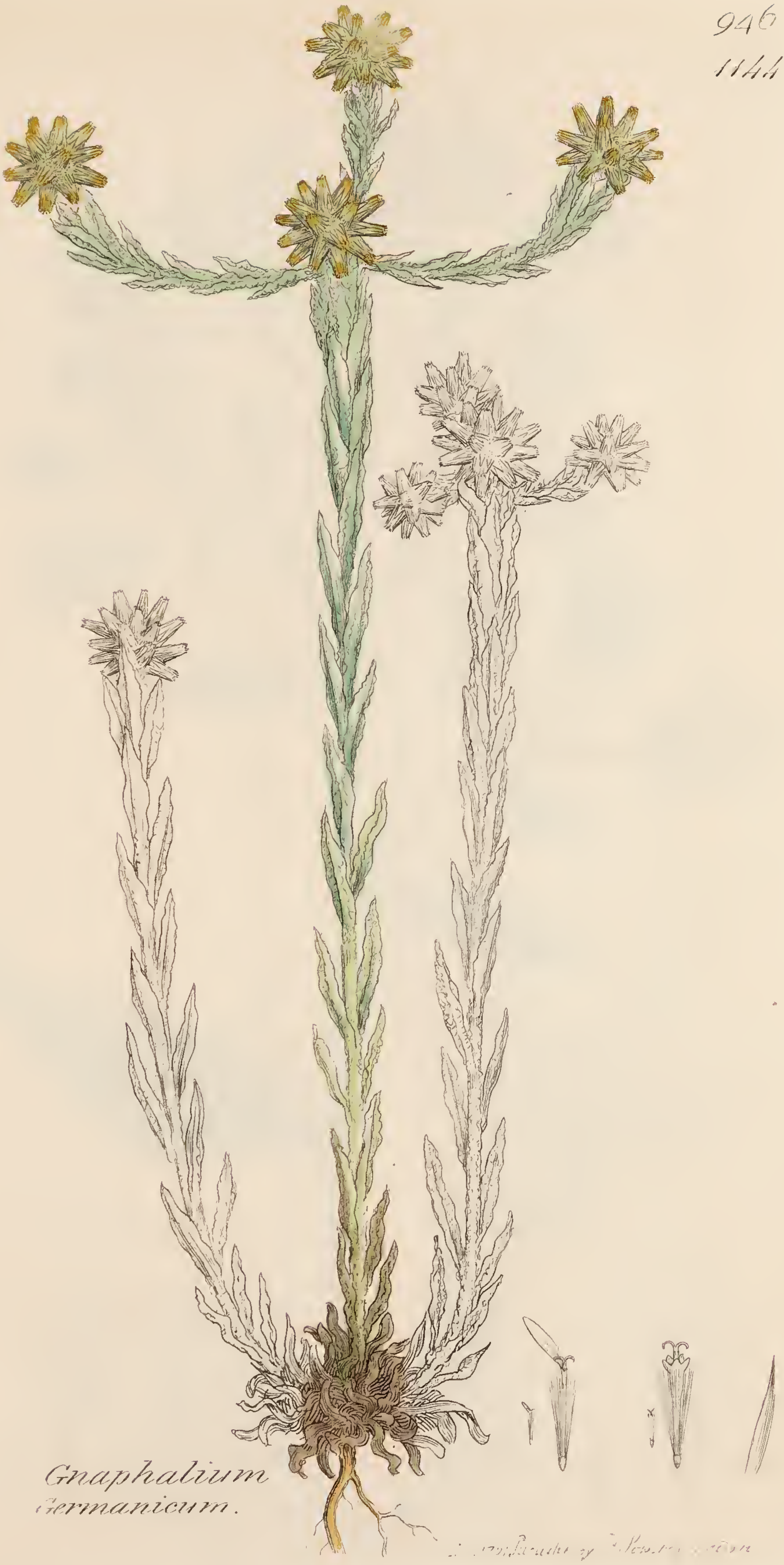
1143.



Gnaphalium minimum.

Ap.l 1. 1803 Publiſhed by Ja.s Sowerby London.

946
1144.

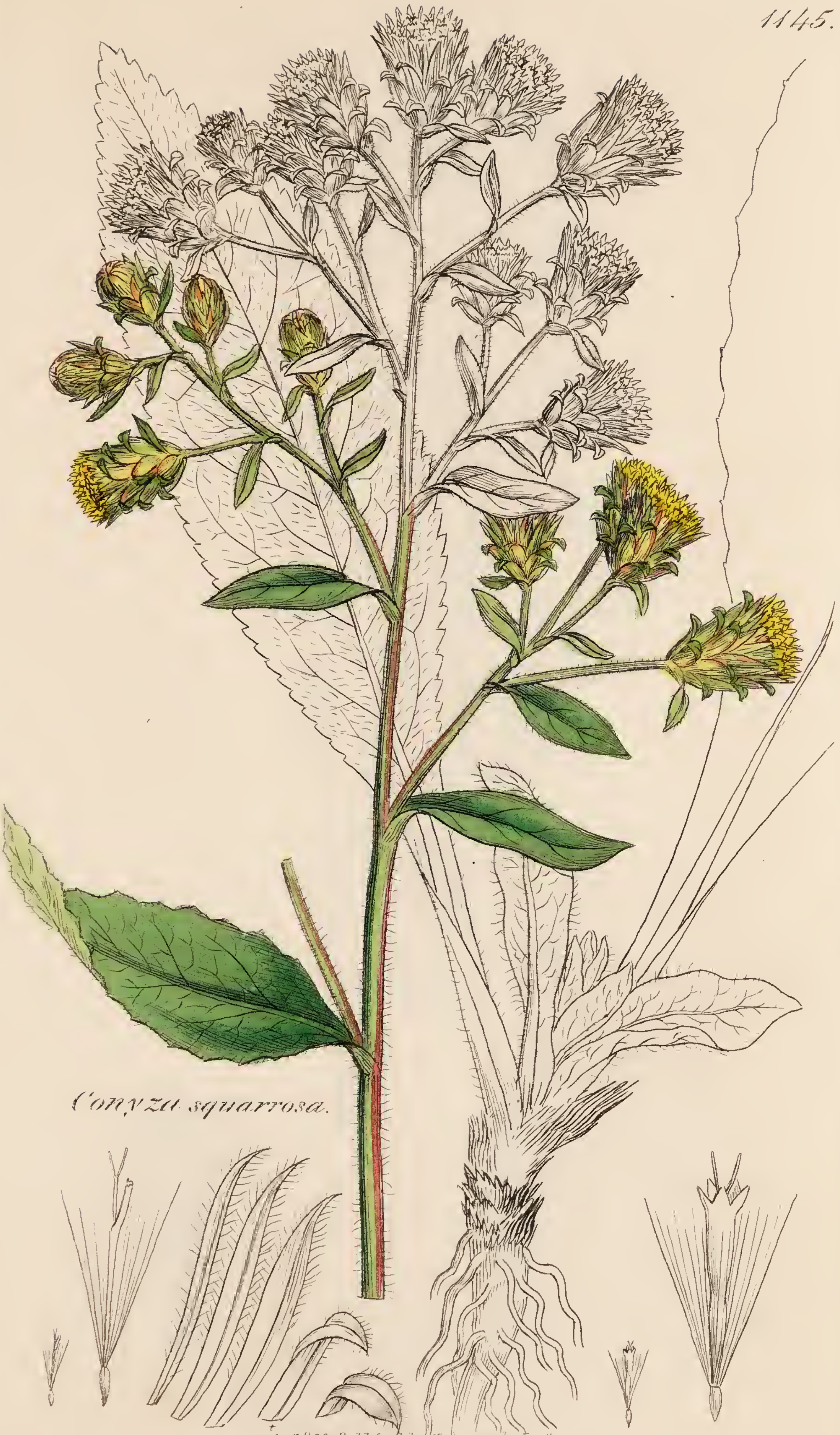


Gnaphalium
Germanicum.

[illegible] Publish'd by J. Sowerby London

1195

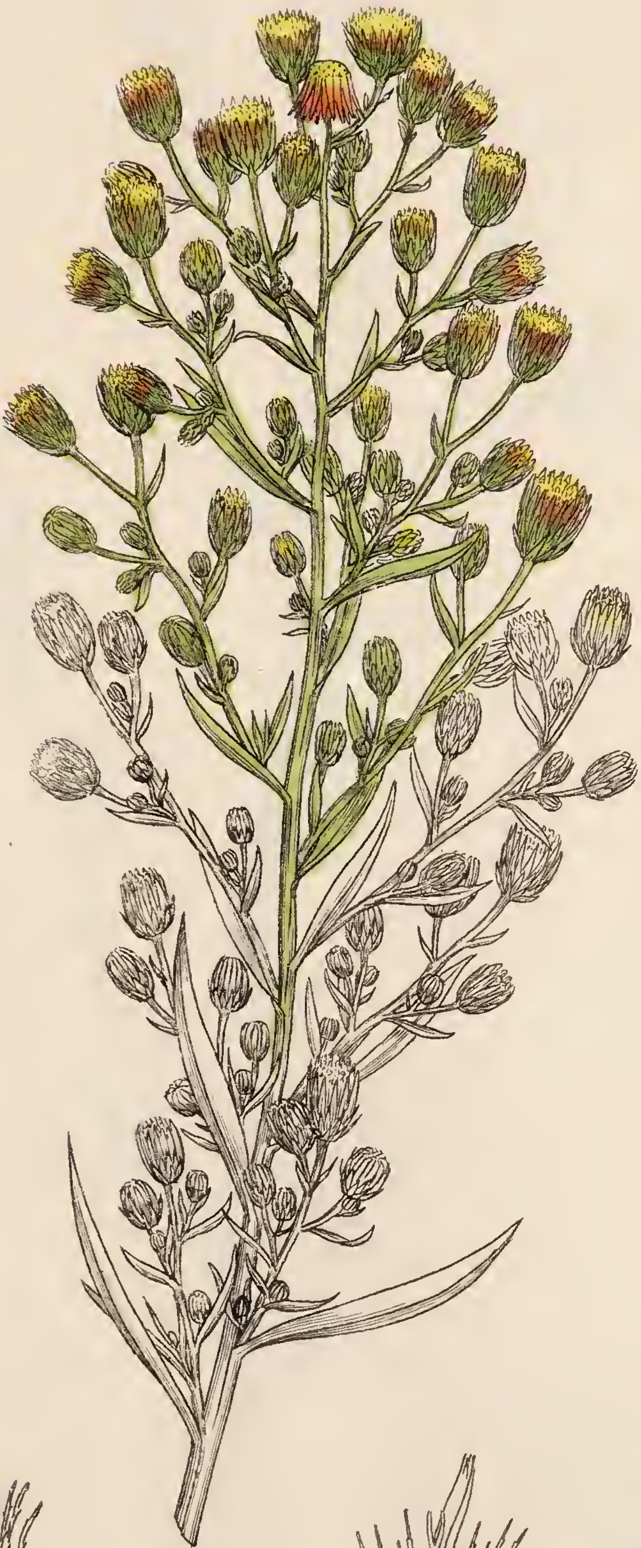
1145.

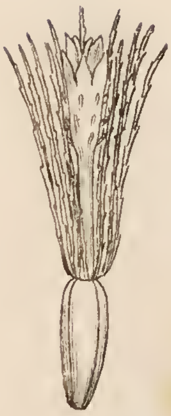


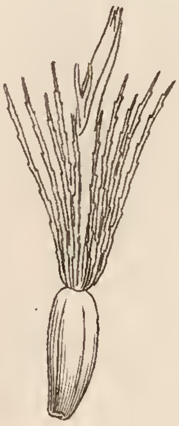
Conyza squarrosa.

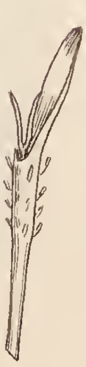
Aug.1 1803 Publiſhed by Ja. Sowerby London.

2019
1146.







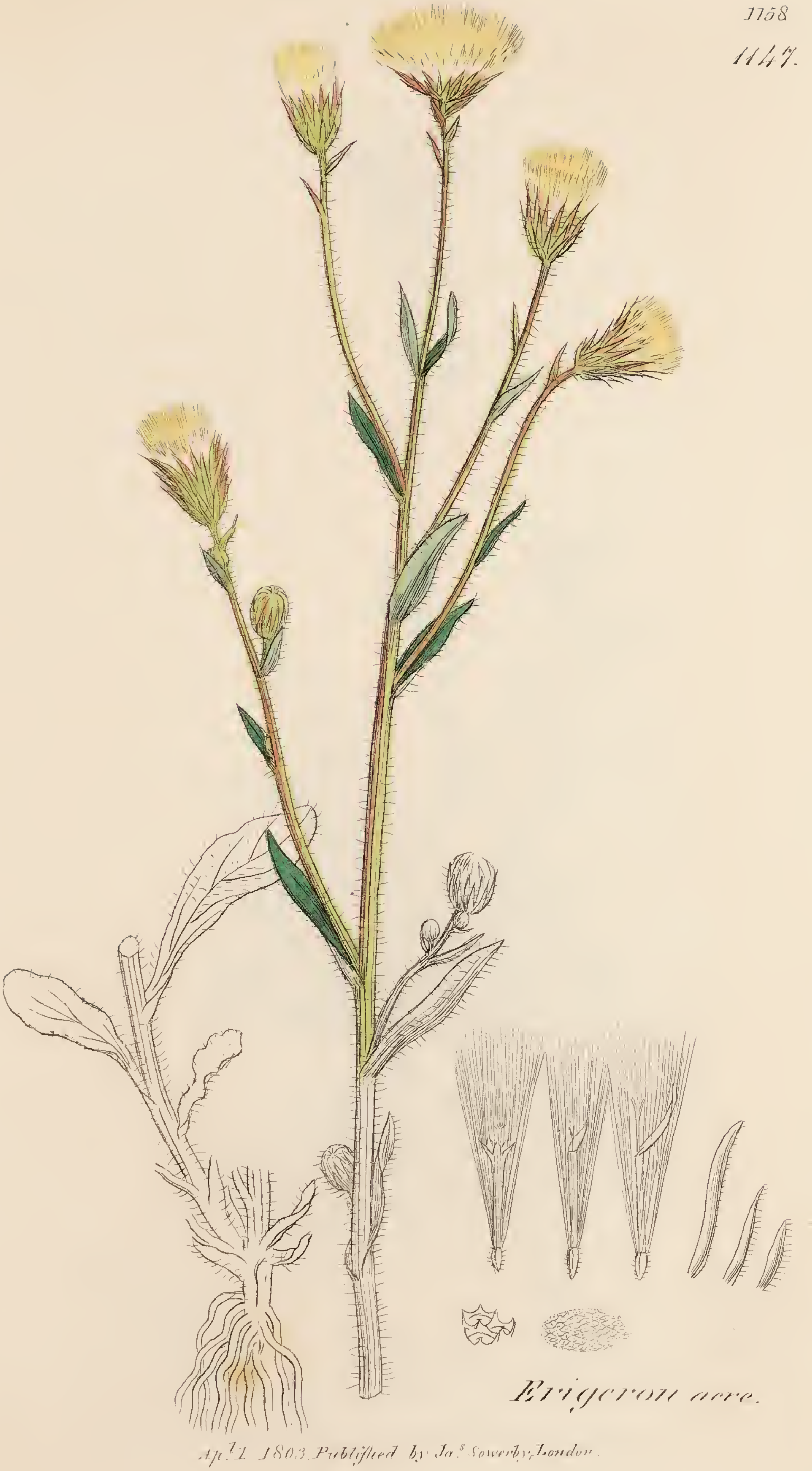


Erigeron
Canadensis.

May 1.1809 Published by J. Sowerby London.

1158

1147.

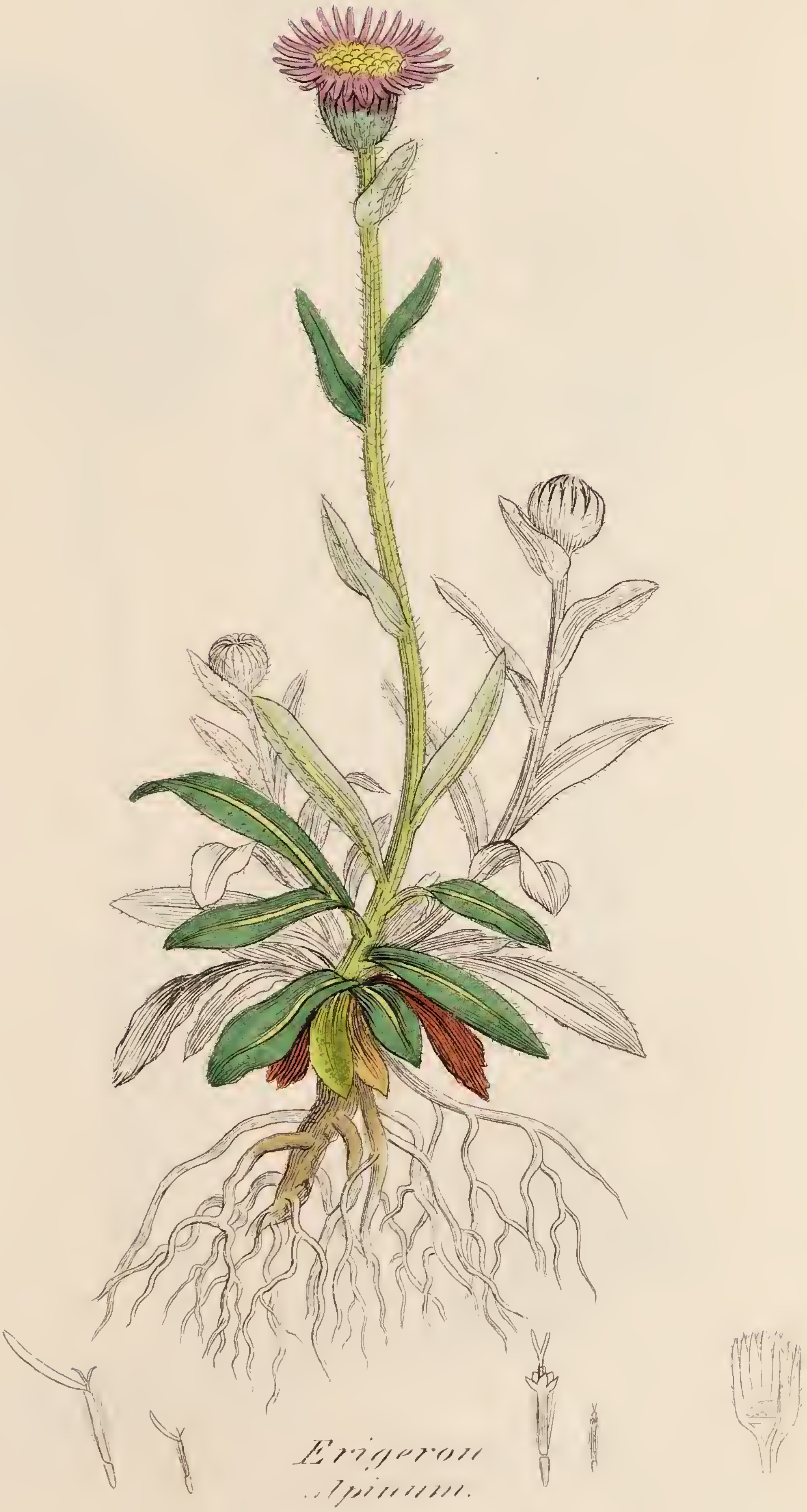


Erigeron acre.

Ap.^{l} 1 1803. Published by Ja.^{s} Sowerby, London.

464

1148.

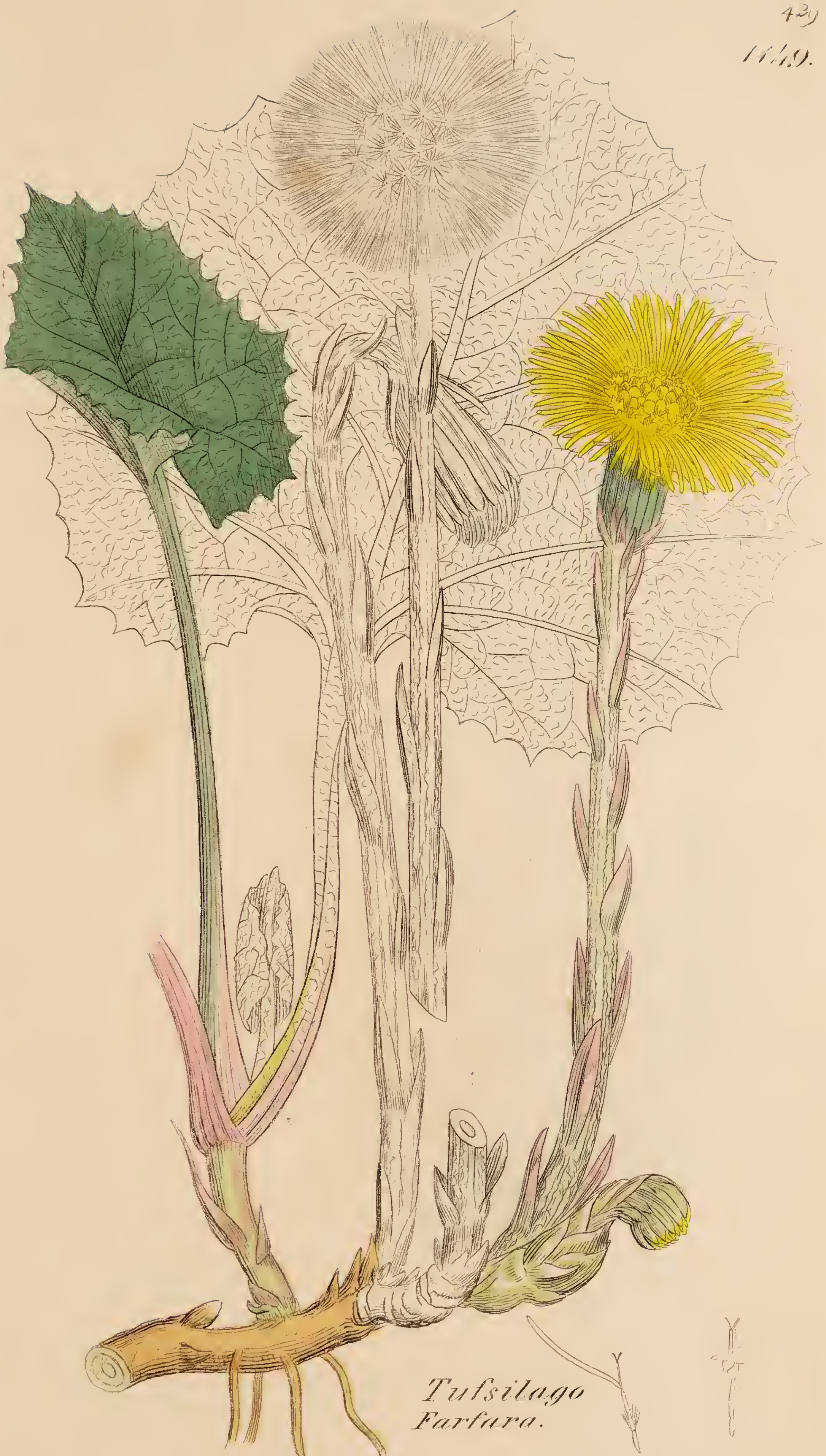


Erigeron Alpinum.

May 1. 1798 Published by J [illegible] by Lon.

429

1449.

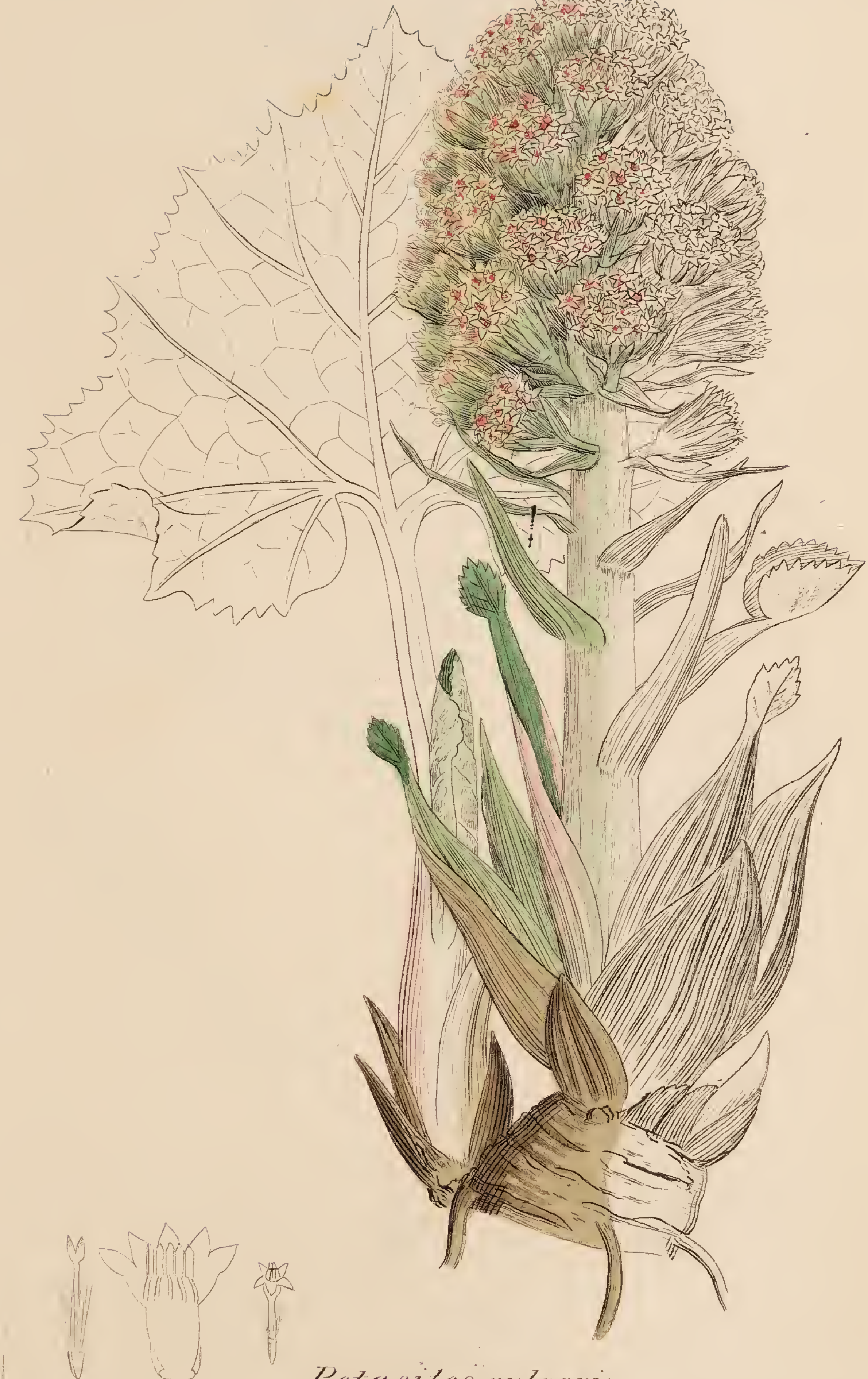


Tuſsilago
Farfara.

Nov.r 1 179 Published by J.s Sowerby Lond.n

431.

1150.

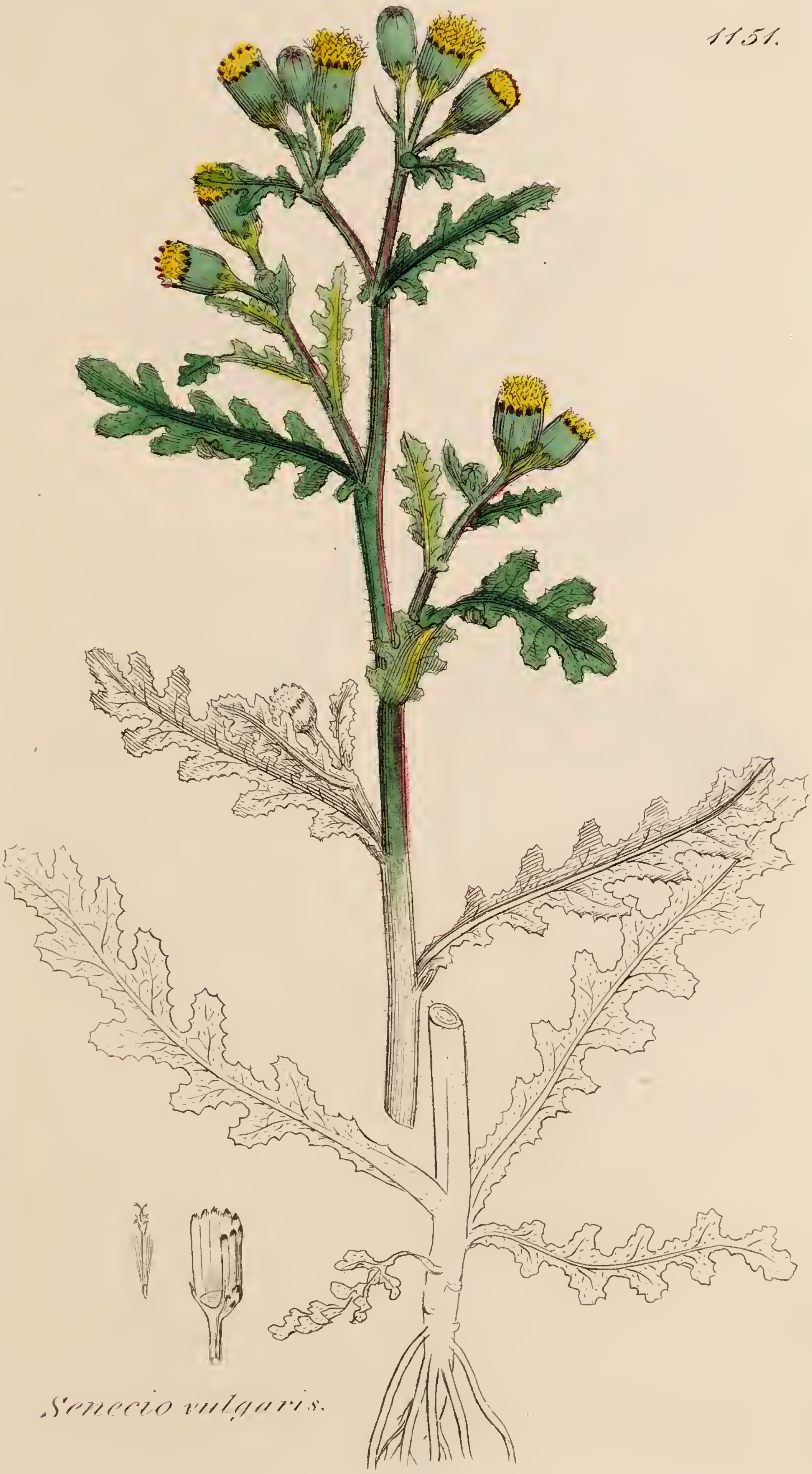


Petasites vulgaris.

Novr. 1. 1797 Published by J. Sowerby London

747

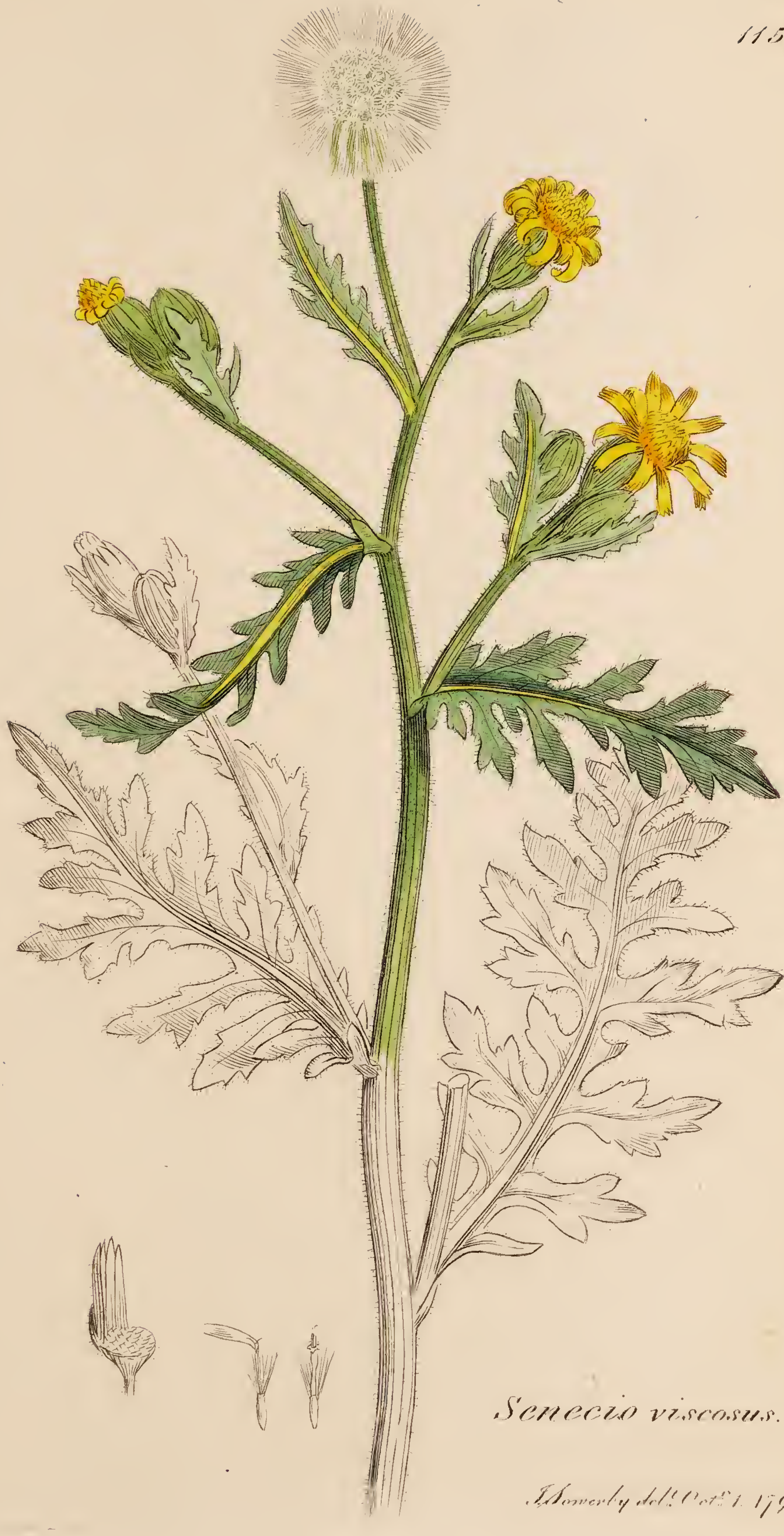
1151.



Senecio vulgaris.

32.

1152.

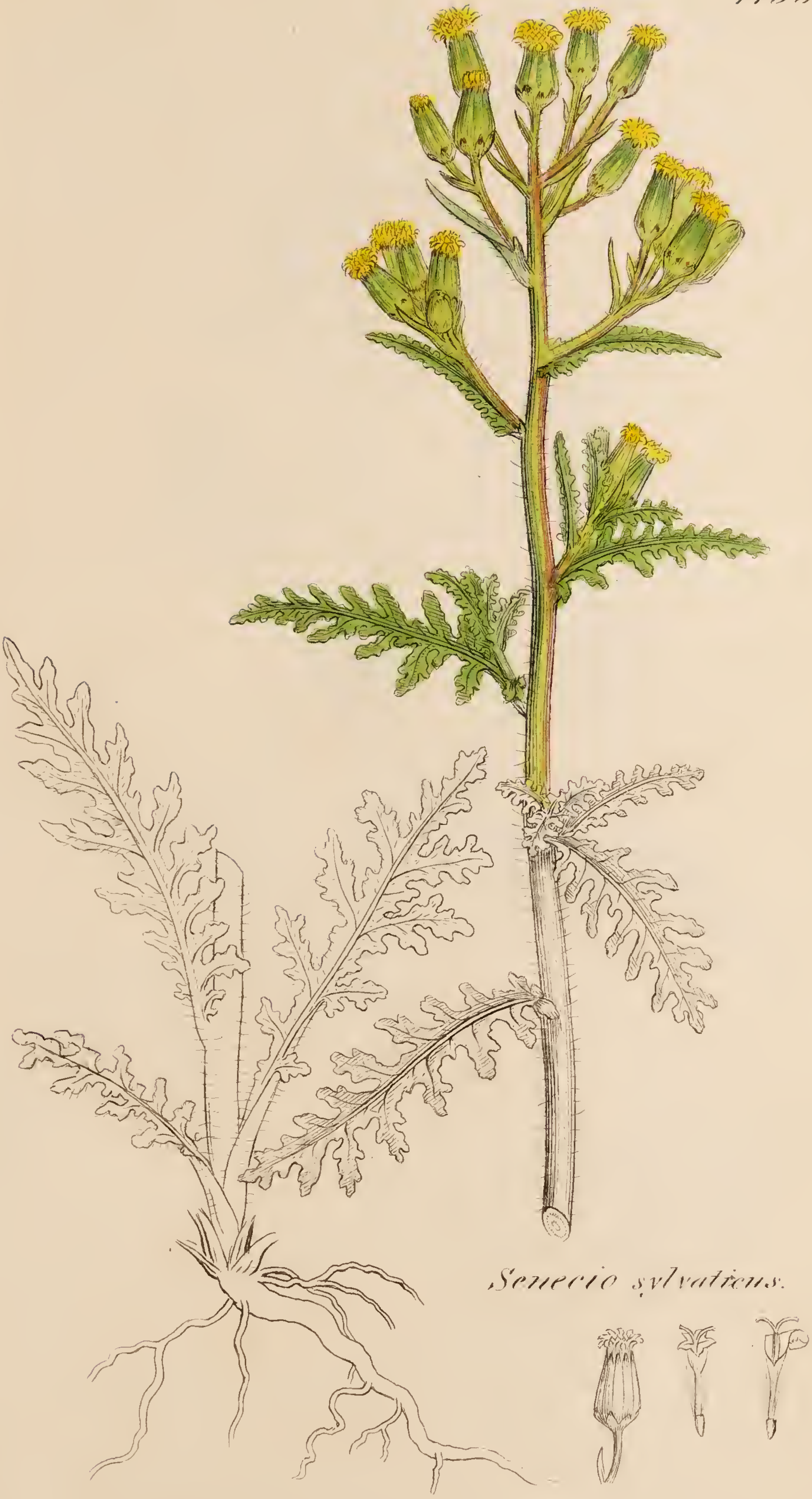


Senecio viscosus.

J. Sowerby del. Octr. 1. 1791.

748.

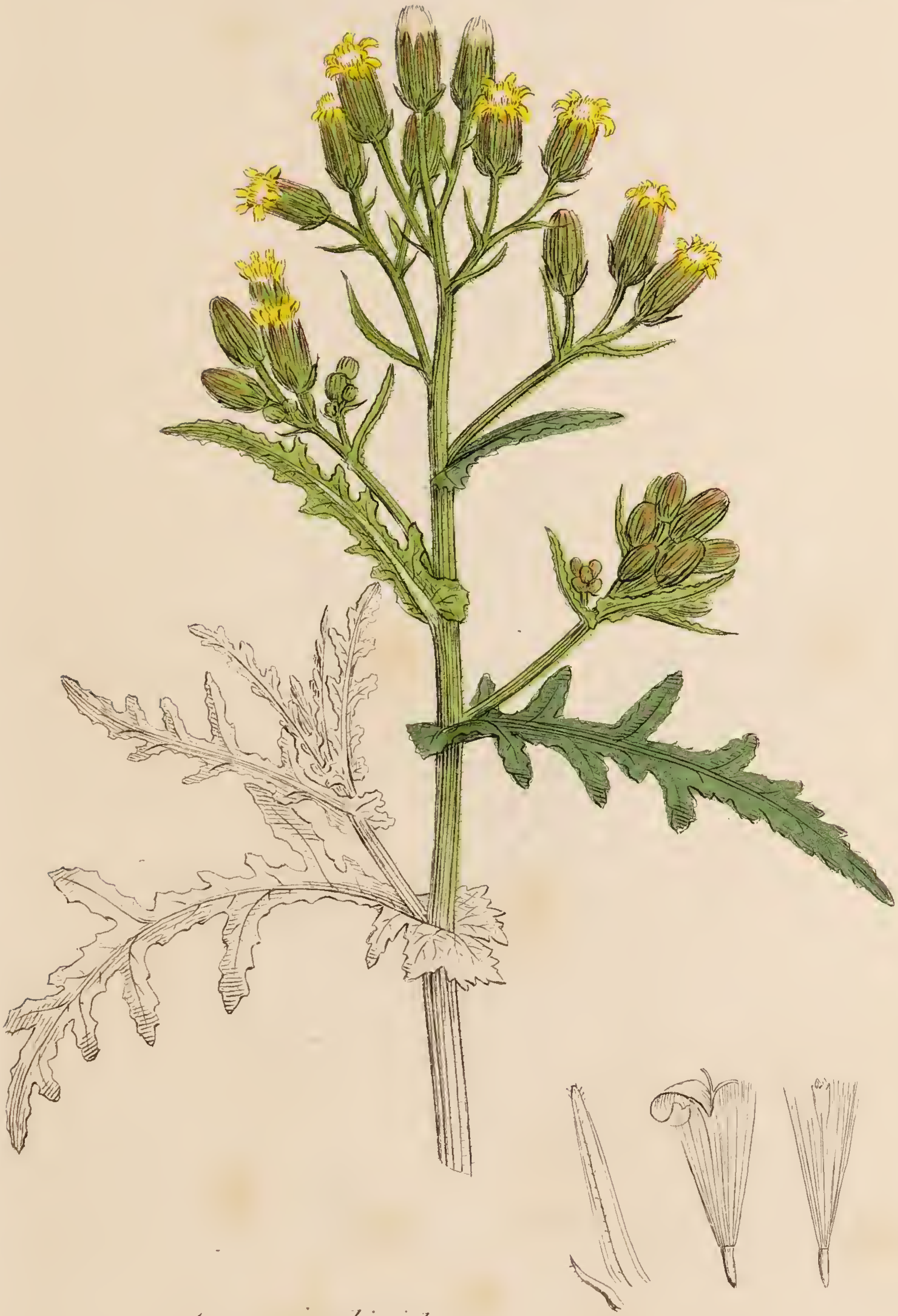
1153.



Senecio sylvaticus.

2515

11.54.

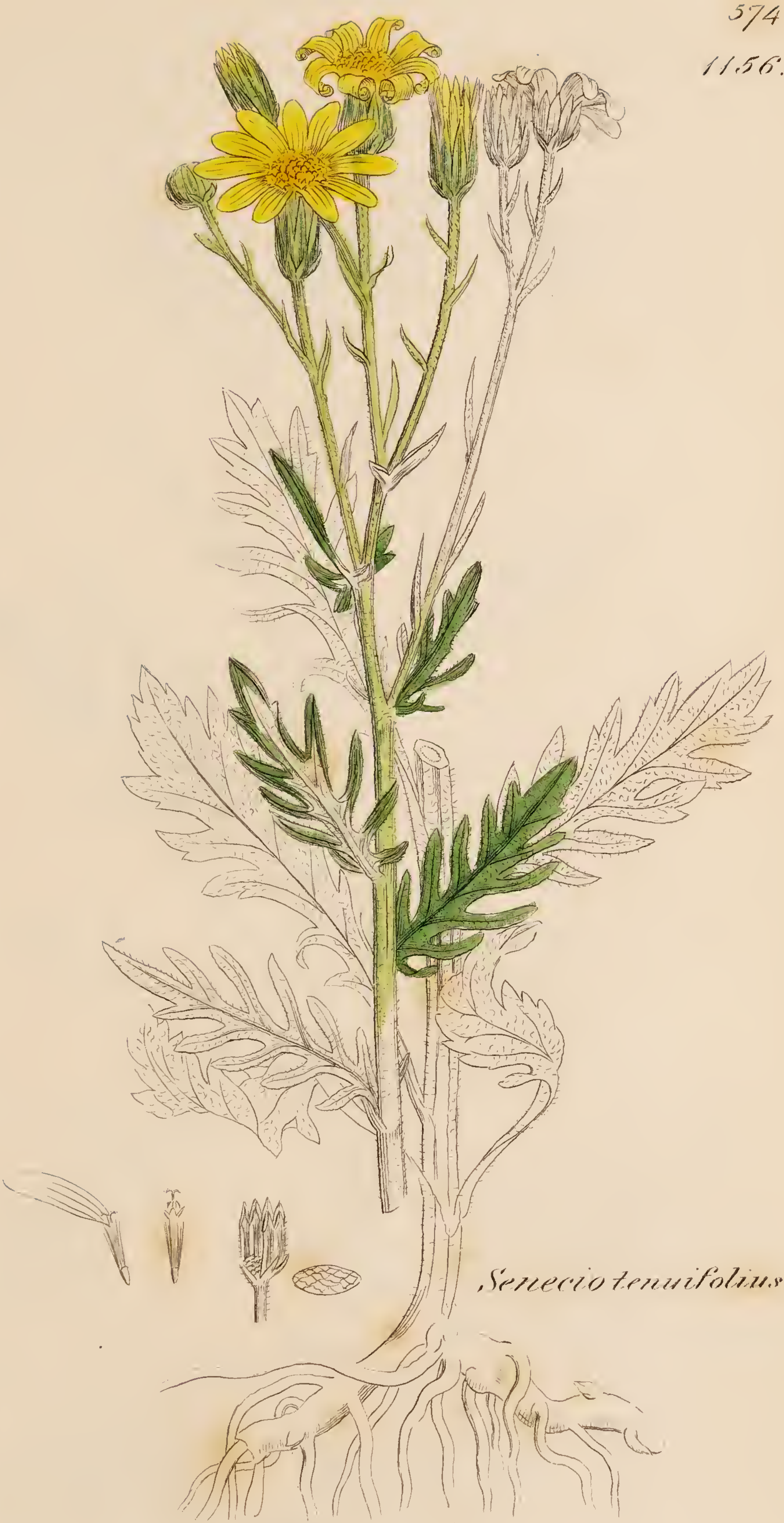


Senecio lividus.

Published by Jas. Sowerby London

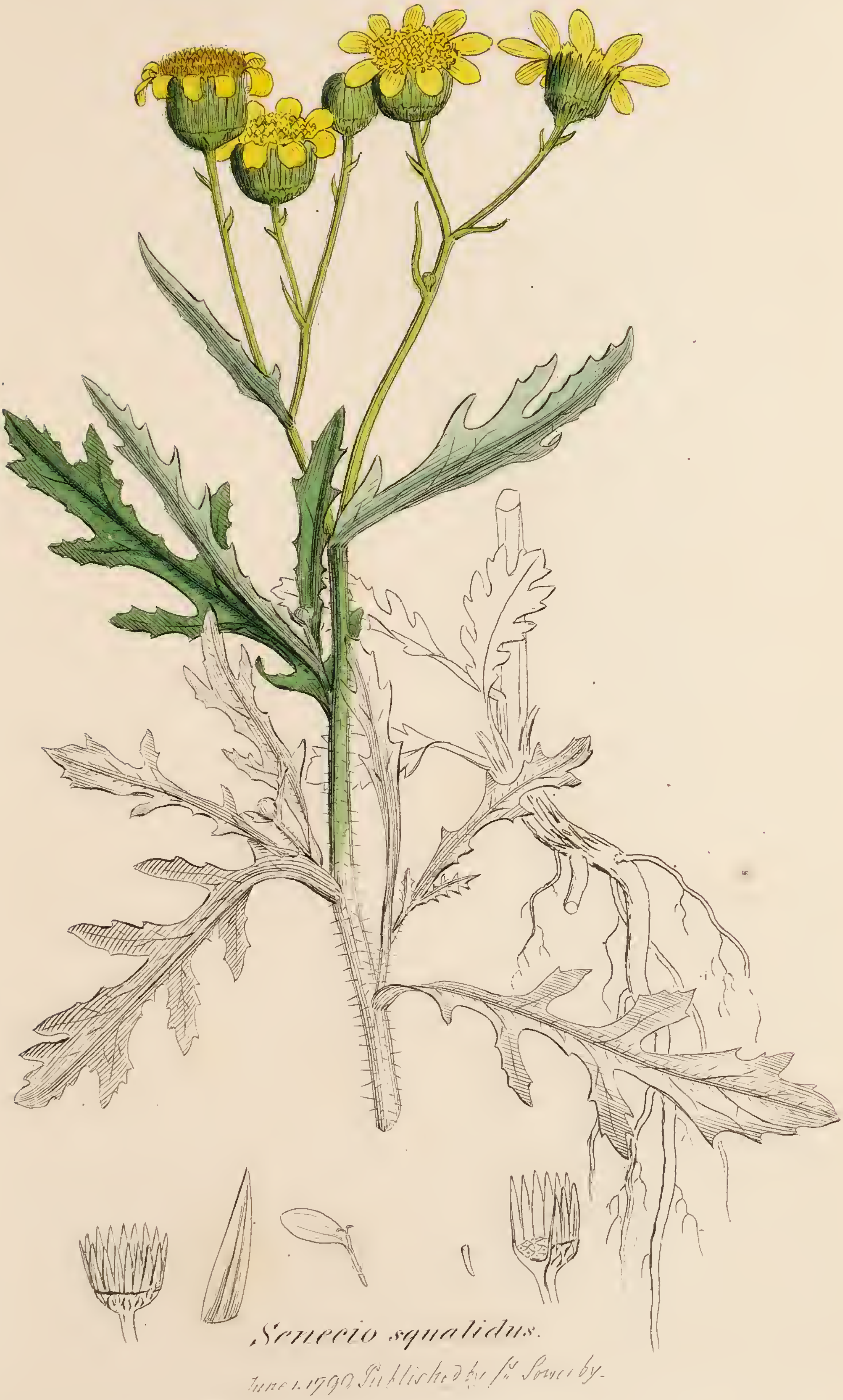
574

1156.



Senecio tenuifolius.

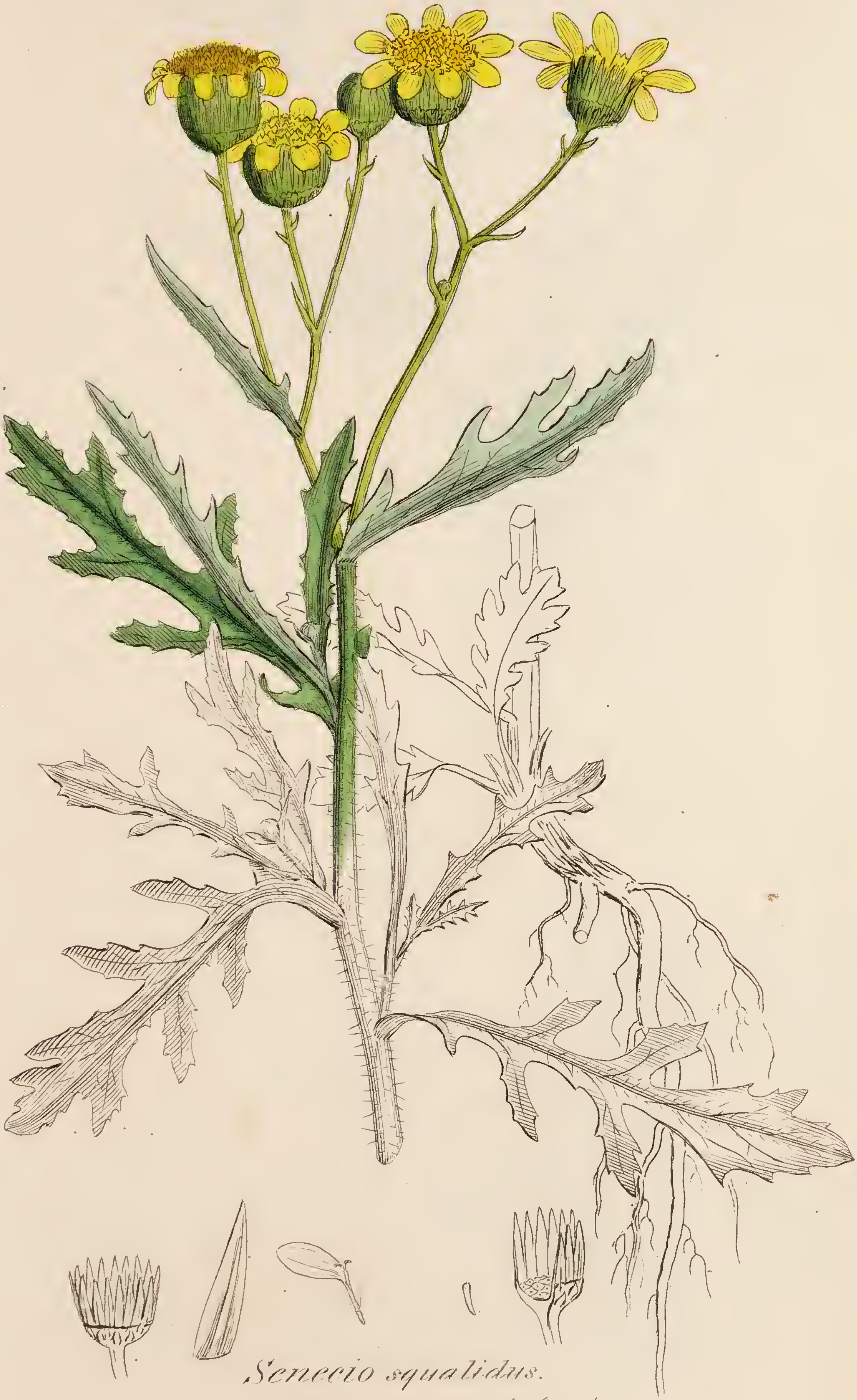
600.
1155



Senecio squalidus.

June 1. 1799 Published by J.s Sowerby.

600.
1155

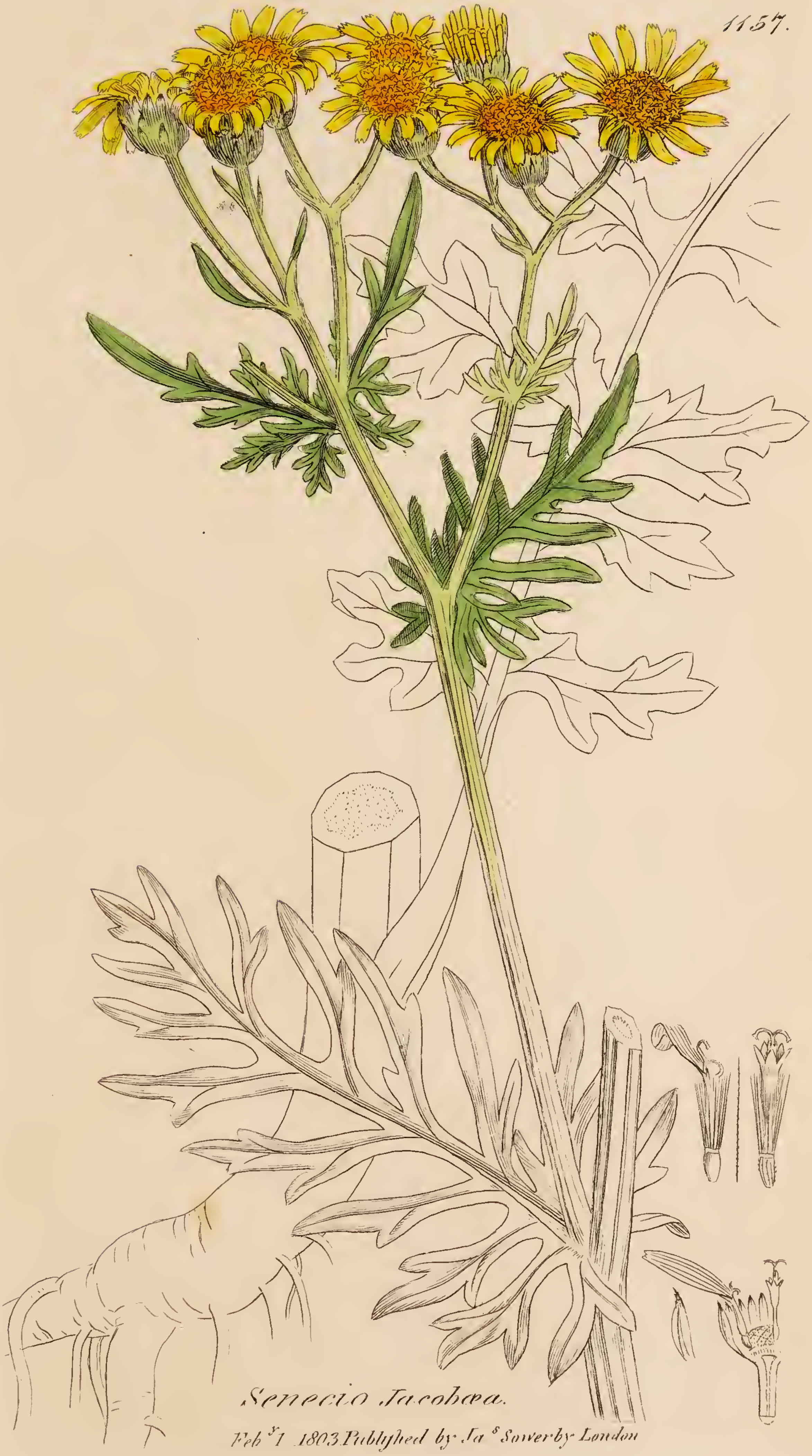


Senecio squalidus.

June 1. 1799 Published by Js. Sowerby.

1130

1157.

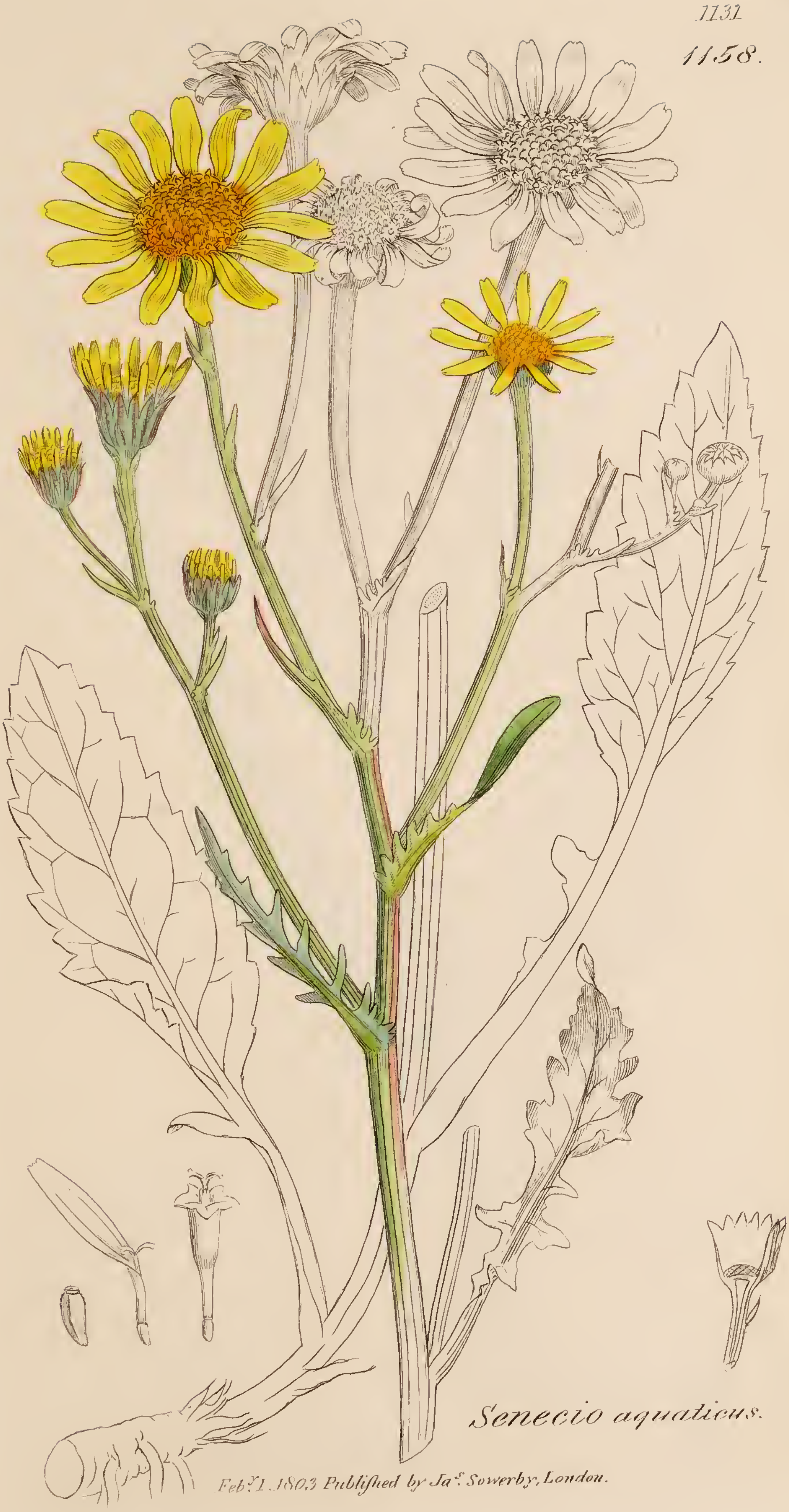


Senecio Jacobæa.

Feb^{y} 1 1803 Publiſhed by Ja^{s} Sowerby London

1131

1158.

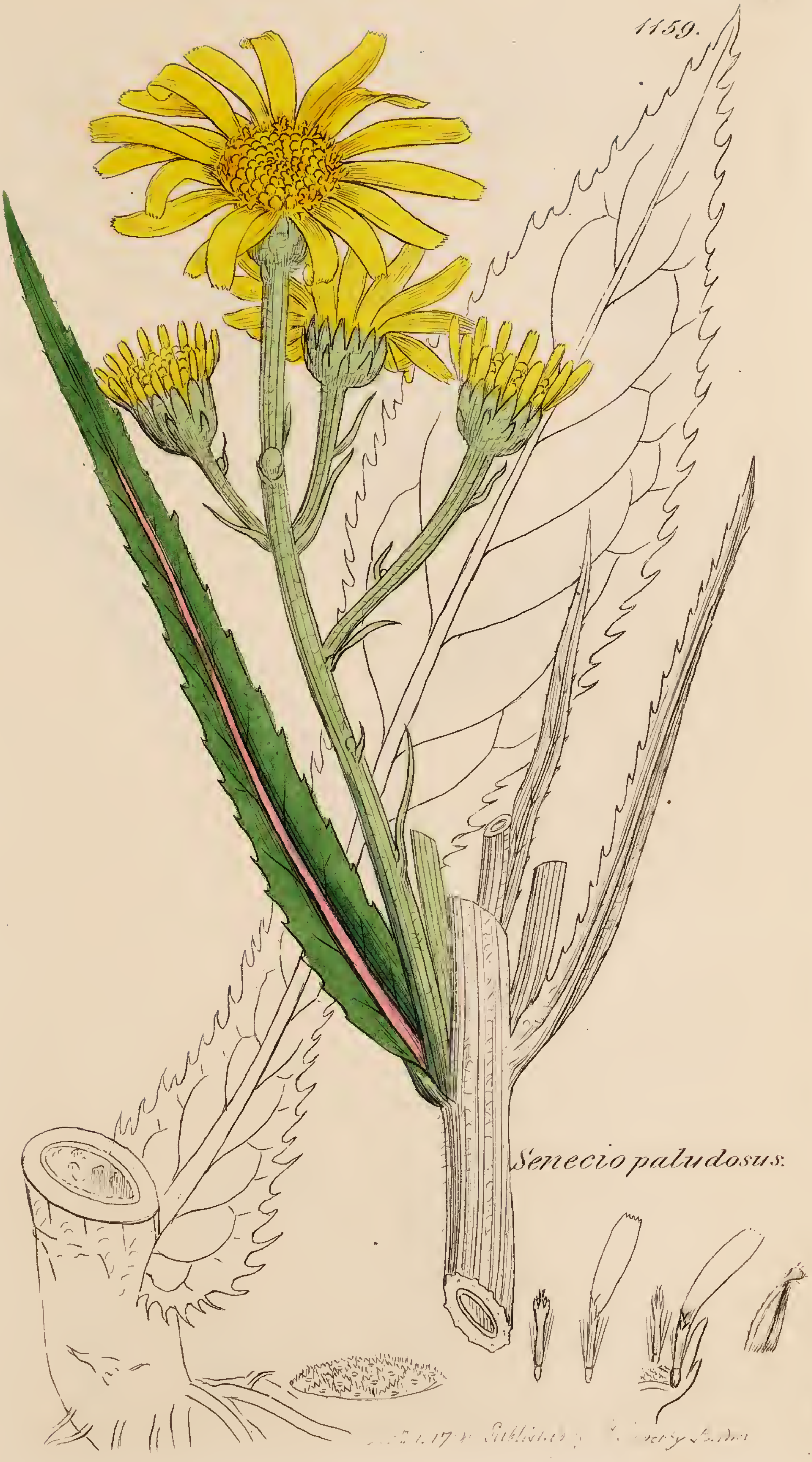


Senecio aquaticus.

Feb.y 1. 1803 Publiſhed by Ja.s Sowerby, London.

650

1159.

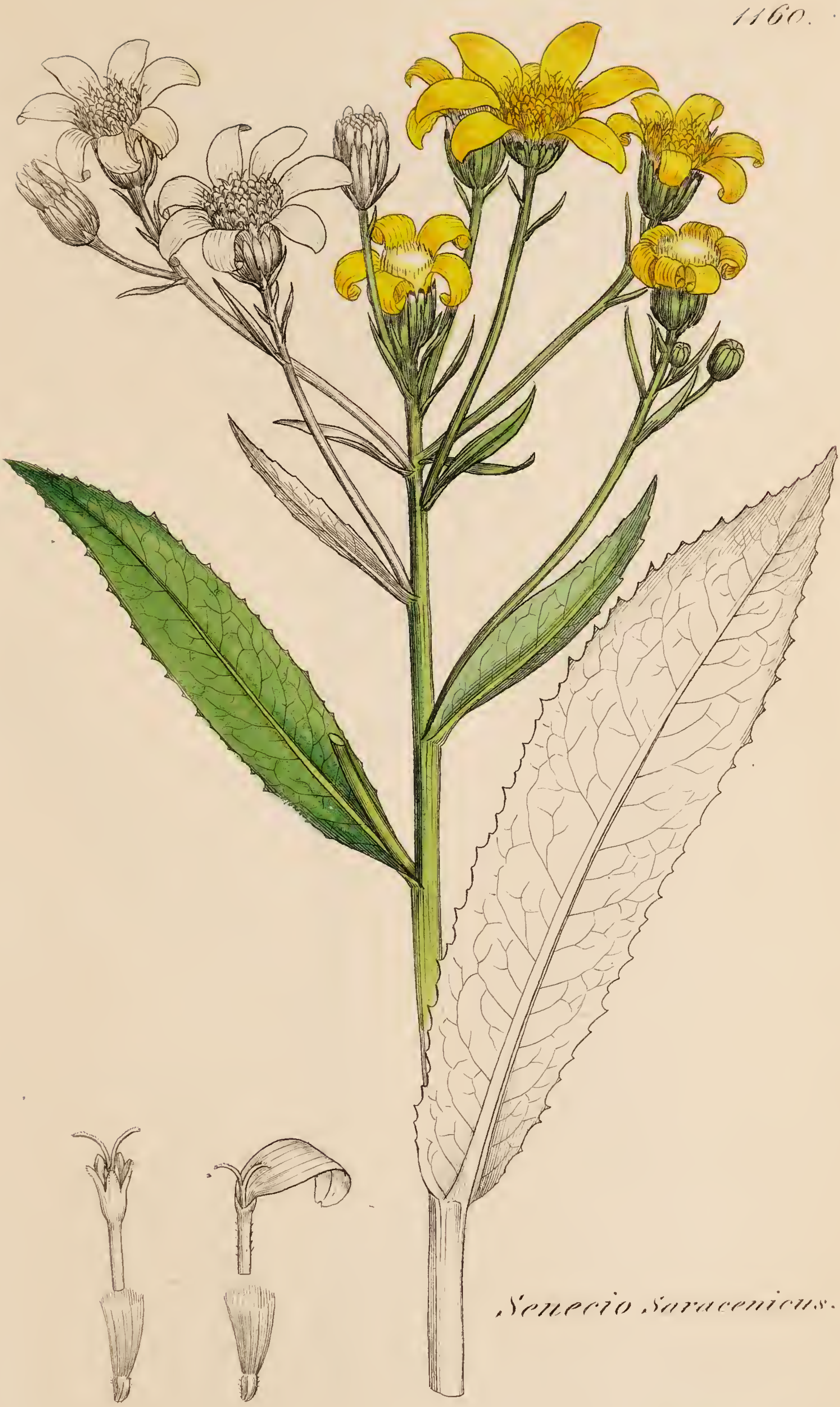


Senecio paludosus.

[illegible] 1. 17[illegible] Published by J. Sowerby London

2211.

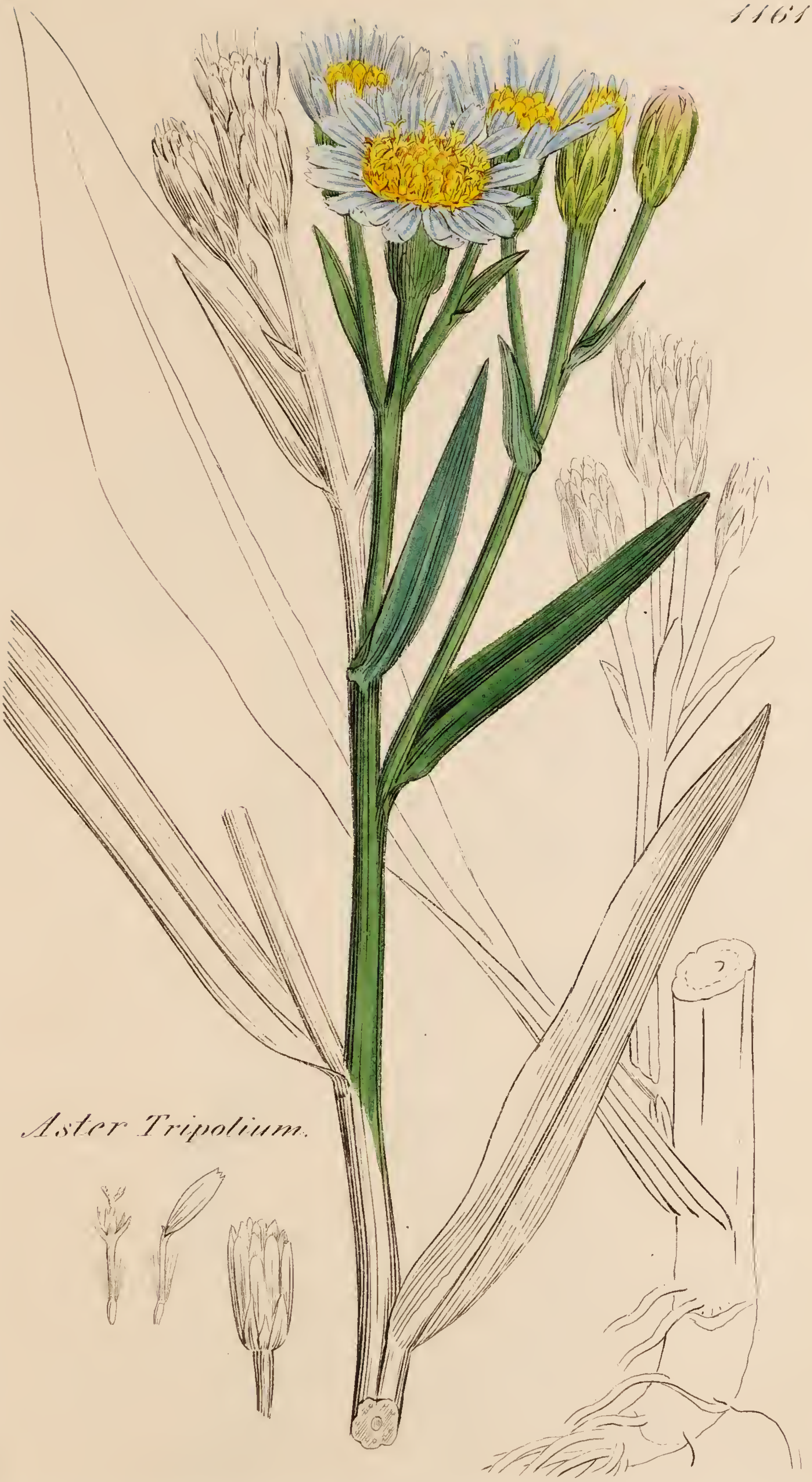
1160.



Senecio Saracenicus.

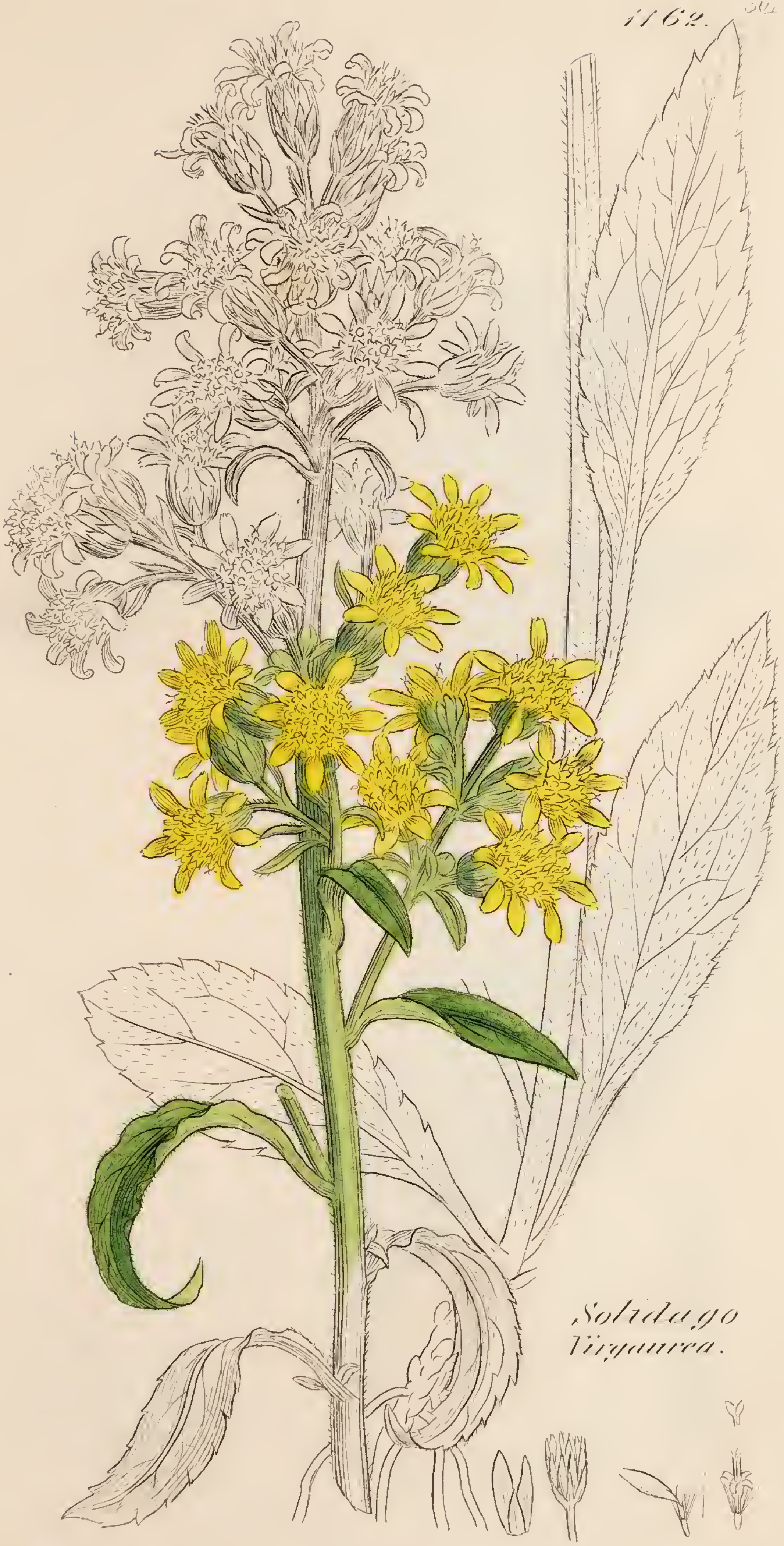
Nov 1 1810 published by Jas. Sowerby London

87.
1161



Aster Tripolium.

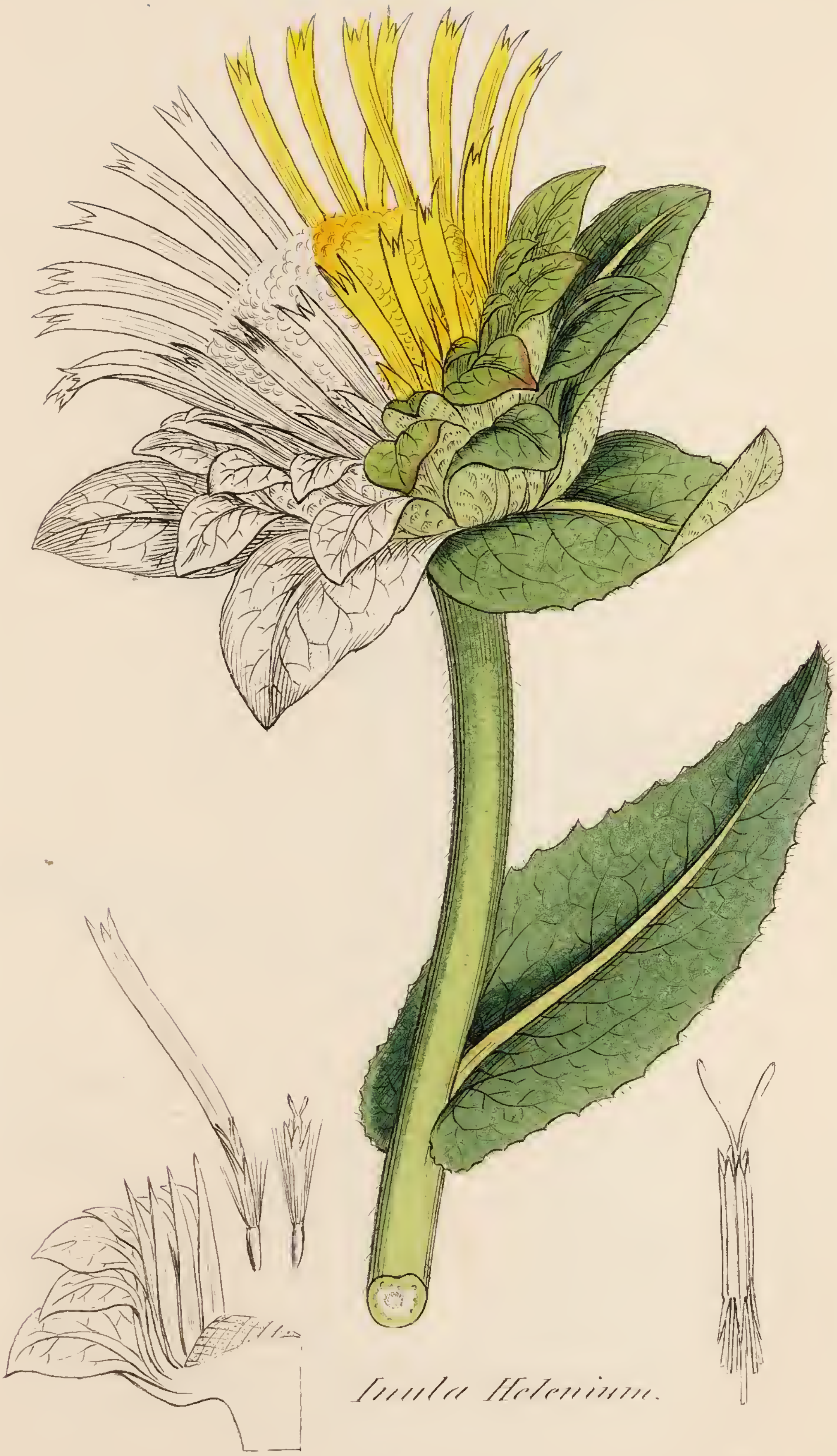
1162. 304



Solidago Virgaurea.

[illegible] by Js Sowerby London.

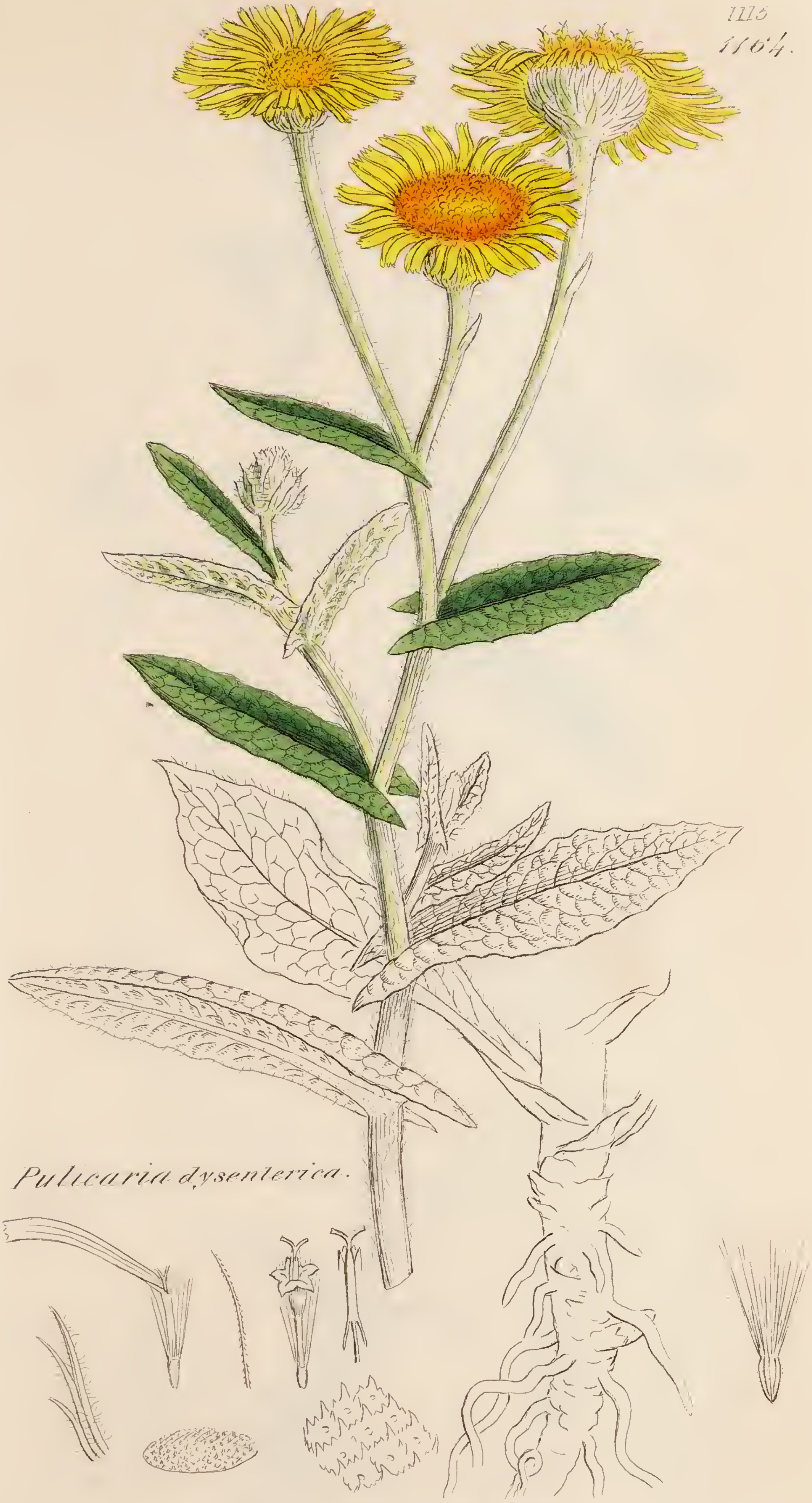
1546
1163.



Inula Helenium.

Jany. 1 1805. Publiſhed by Jas. Sowerby, London.

1115
1164.

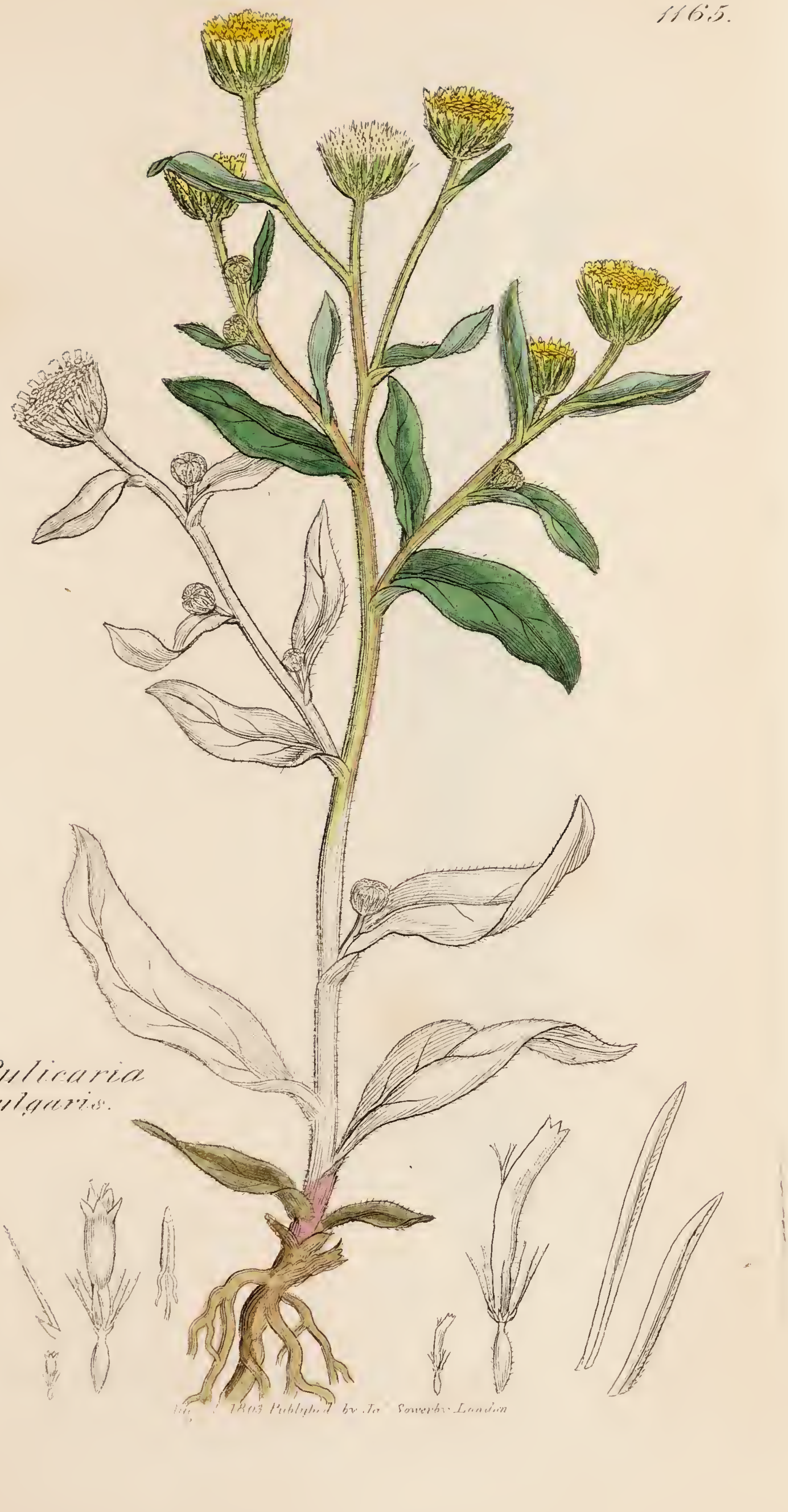


Pulicaria dysenterica.

Jan.y 1 1803 Published by Jas. Sowerby London

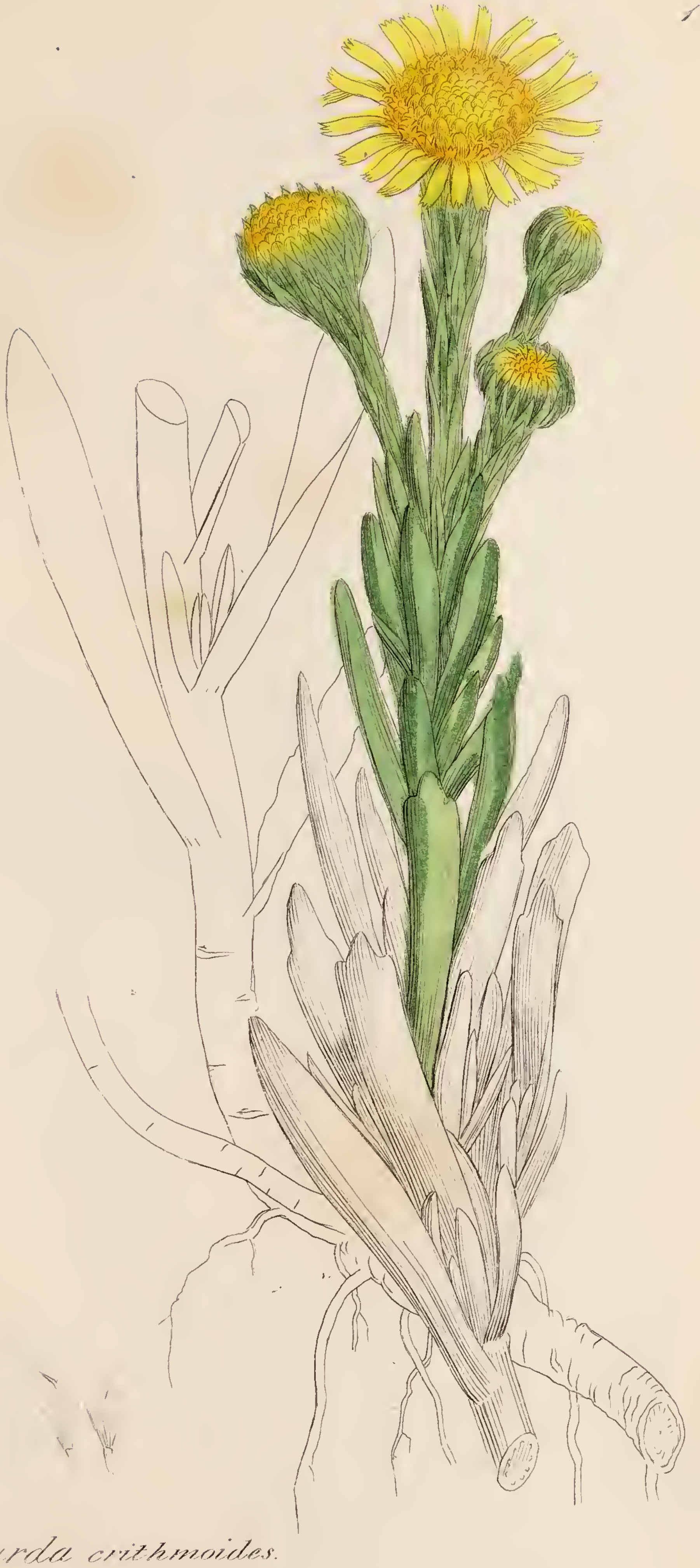
1196

1165.



Pulicaria
vulgaris.

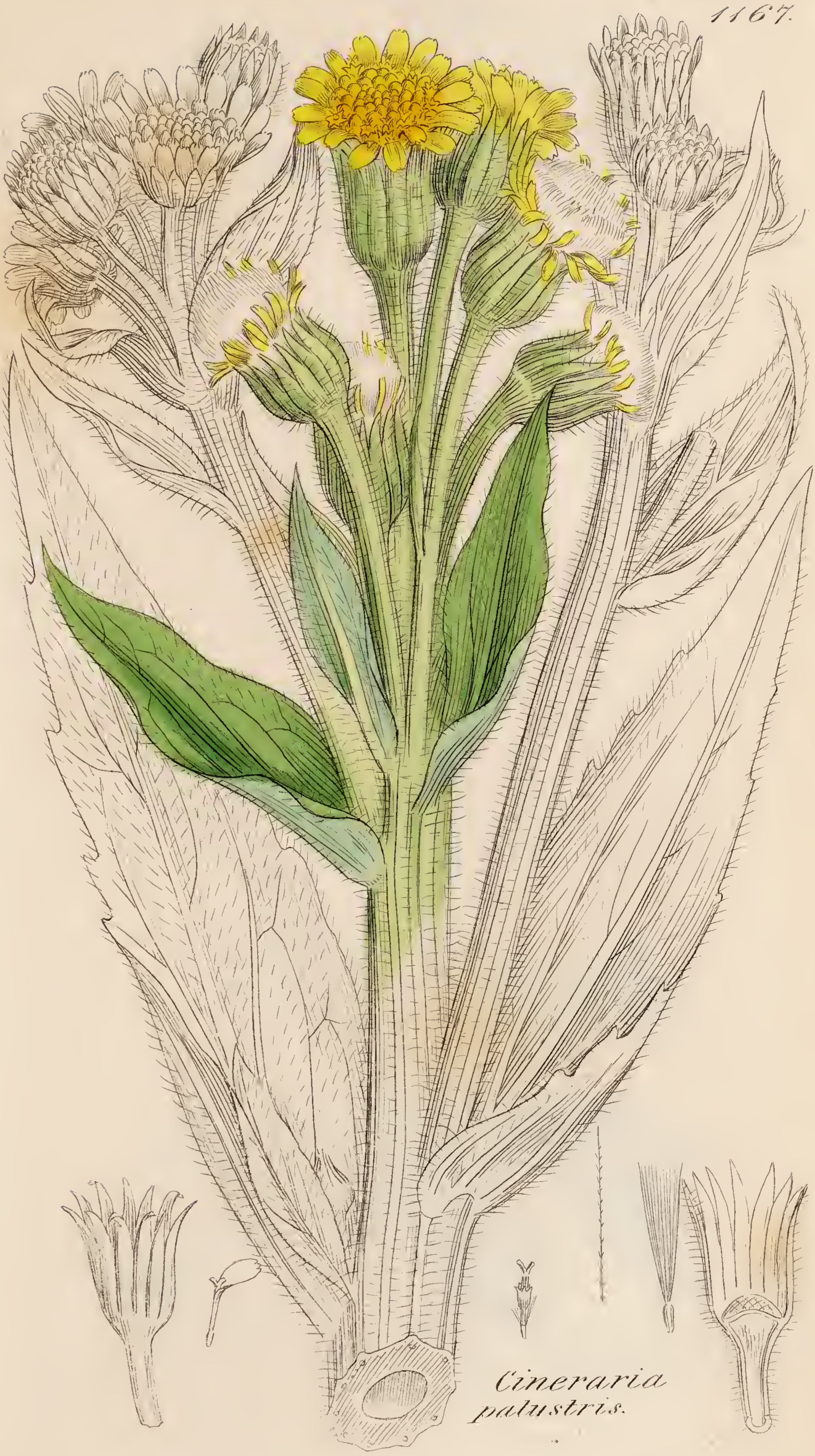
Aug. 1. 1803 Published by Ja. Sowerby London



Limbarda crithmoides.

151

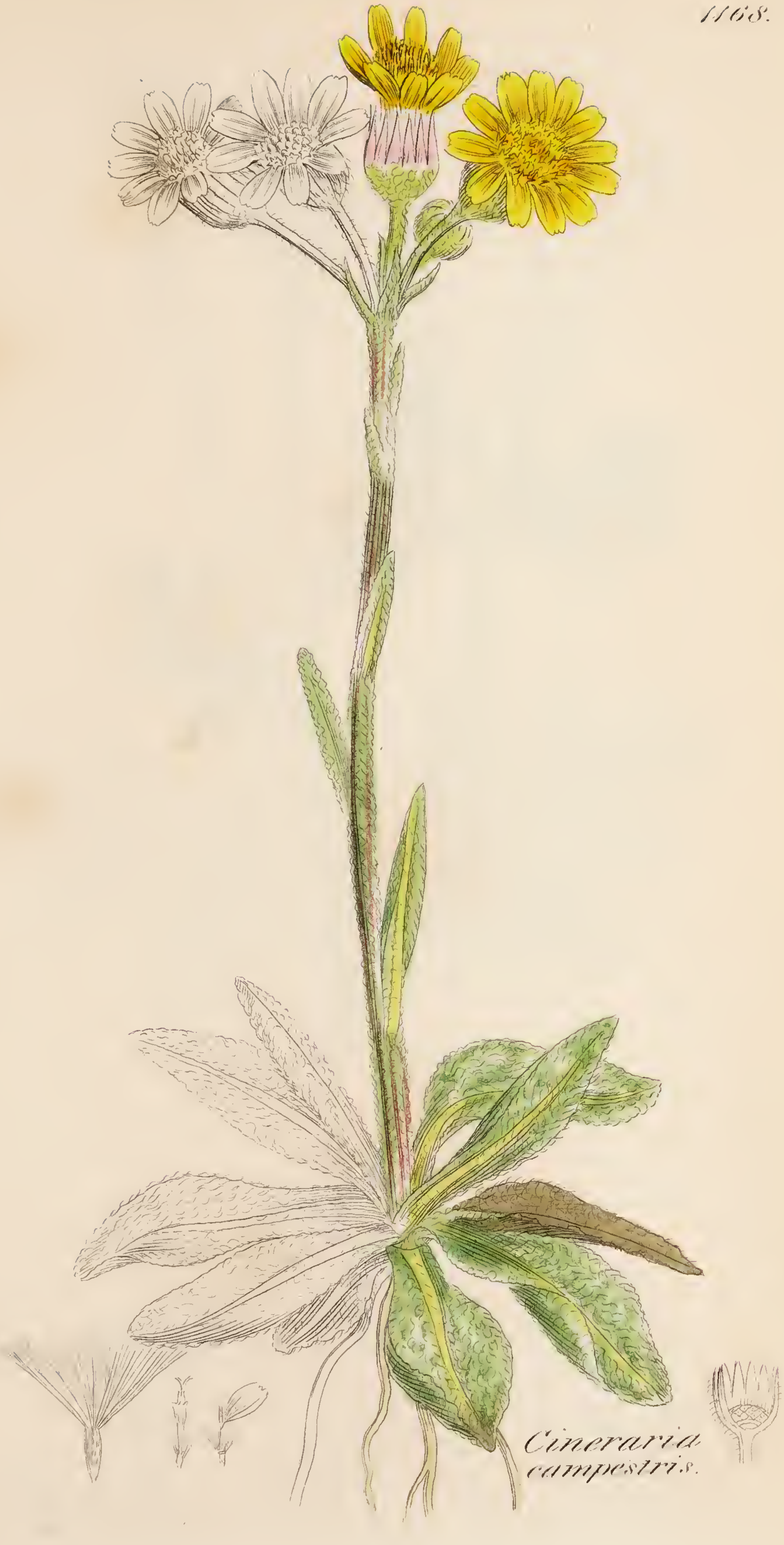
1167.



Cineraria palustris.

132.

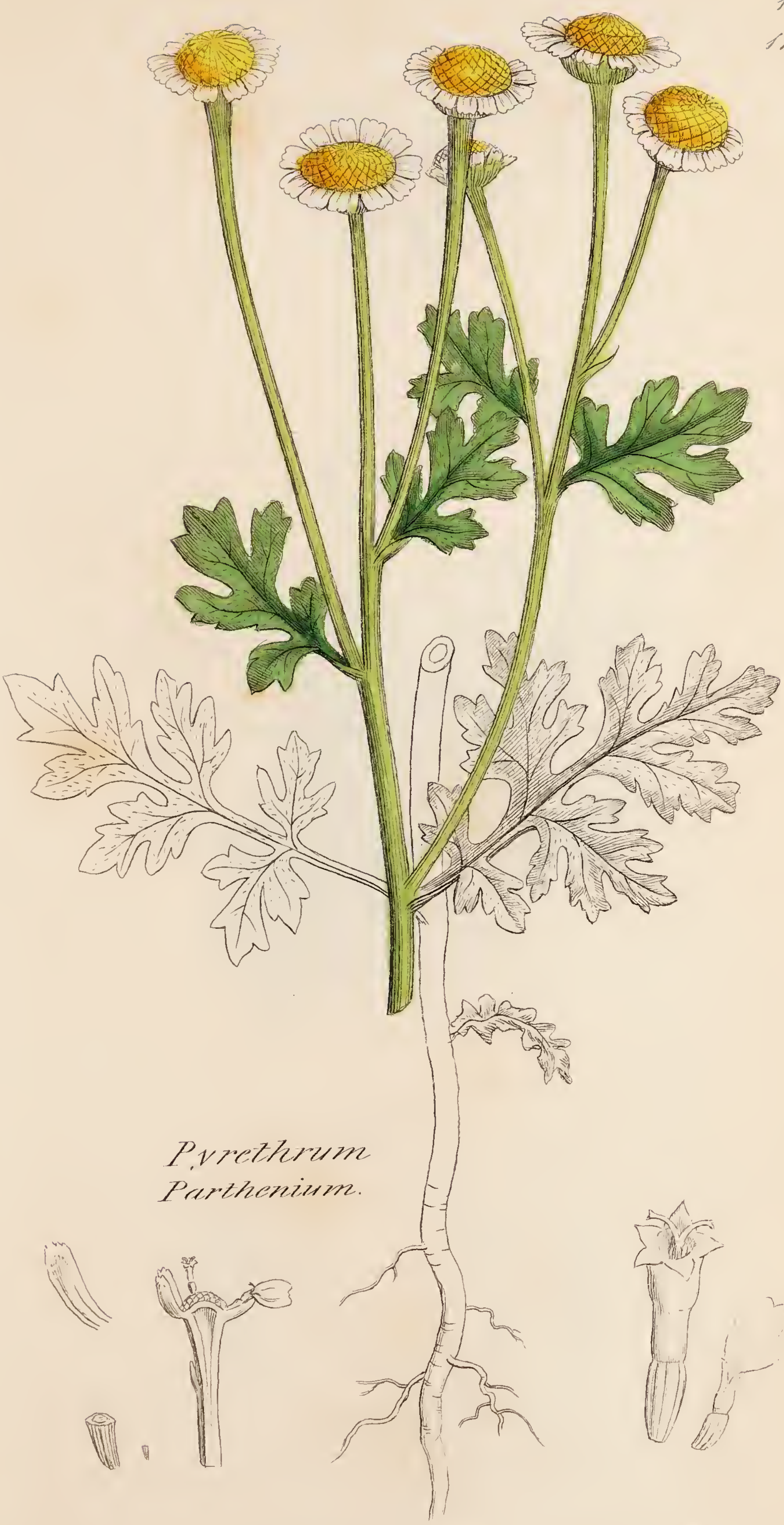
1168.



Cineraria campestris.

1231

1173.

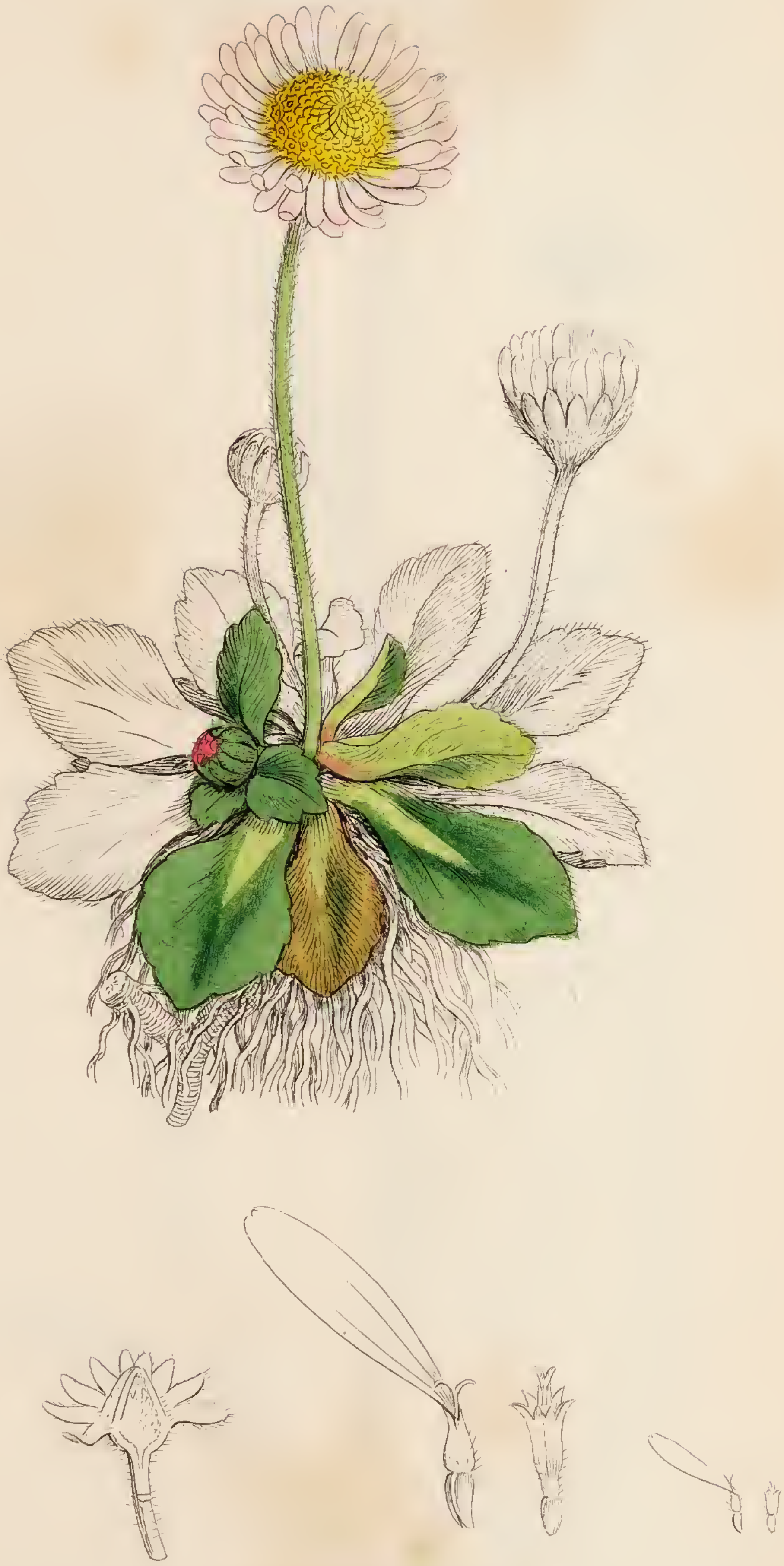


Pyrethrum
Parthenium.

Novr. 1. 1803 Publiſhed by Jas. Sowerby London

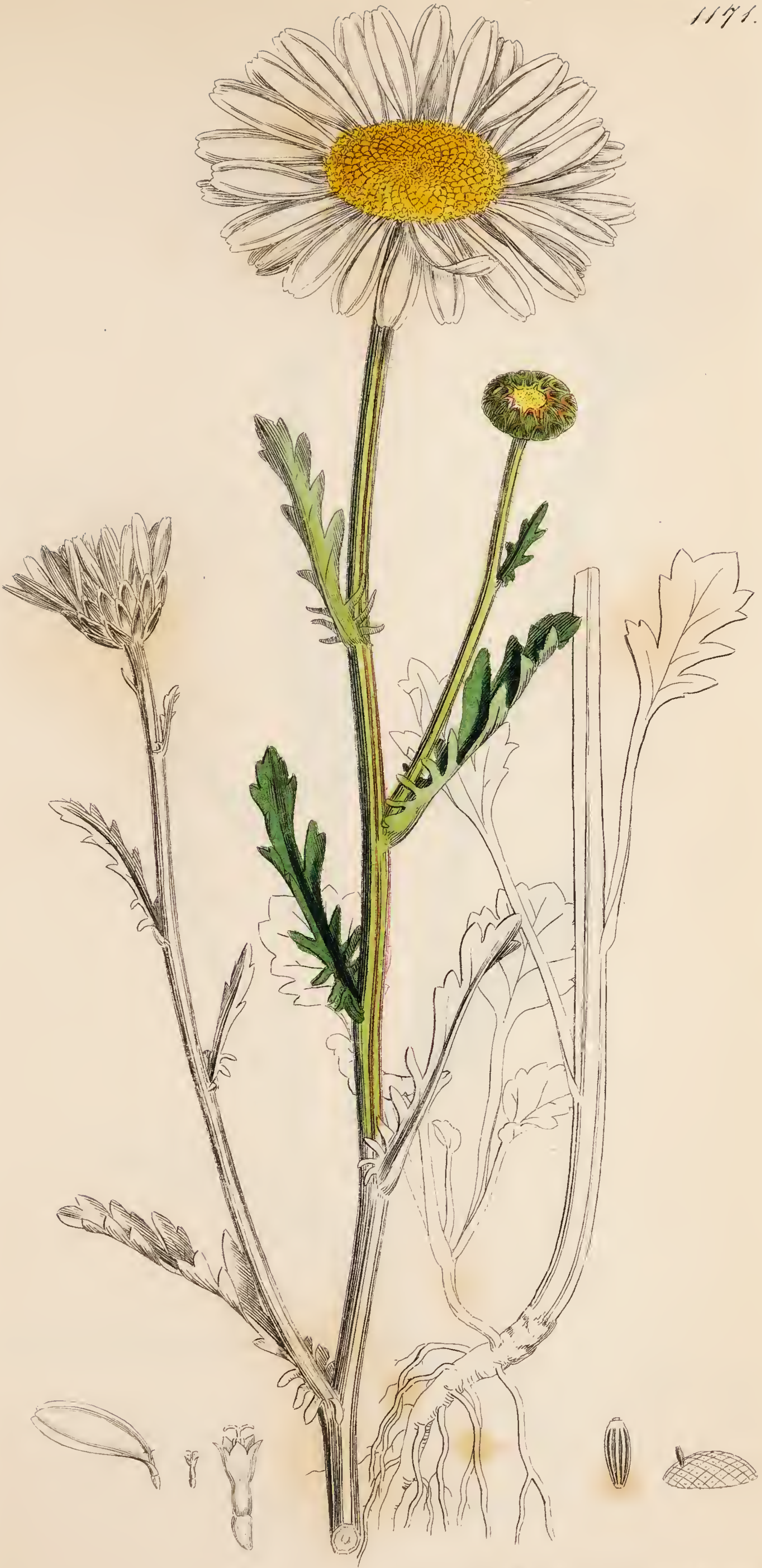
424

1176.



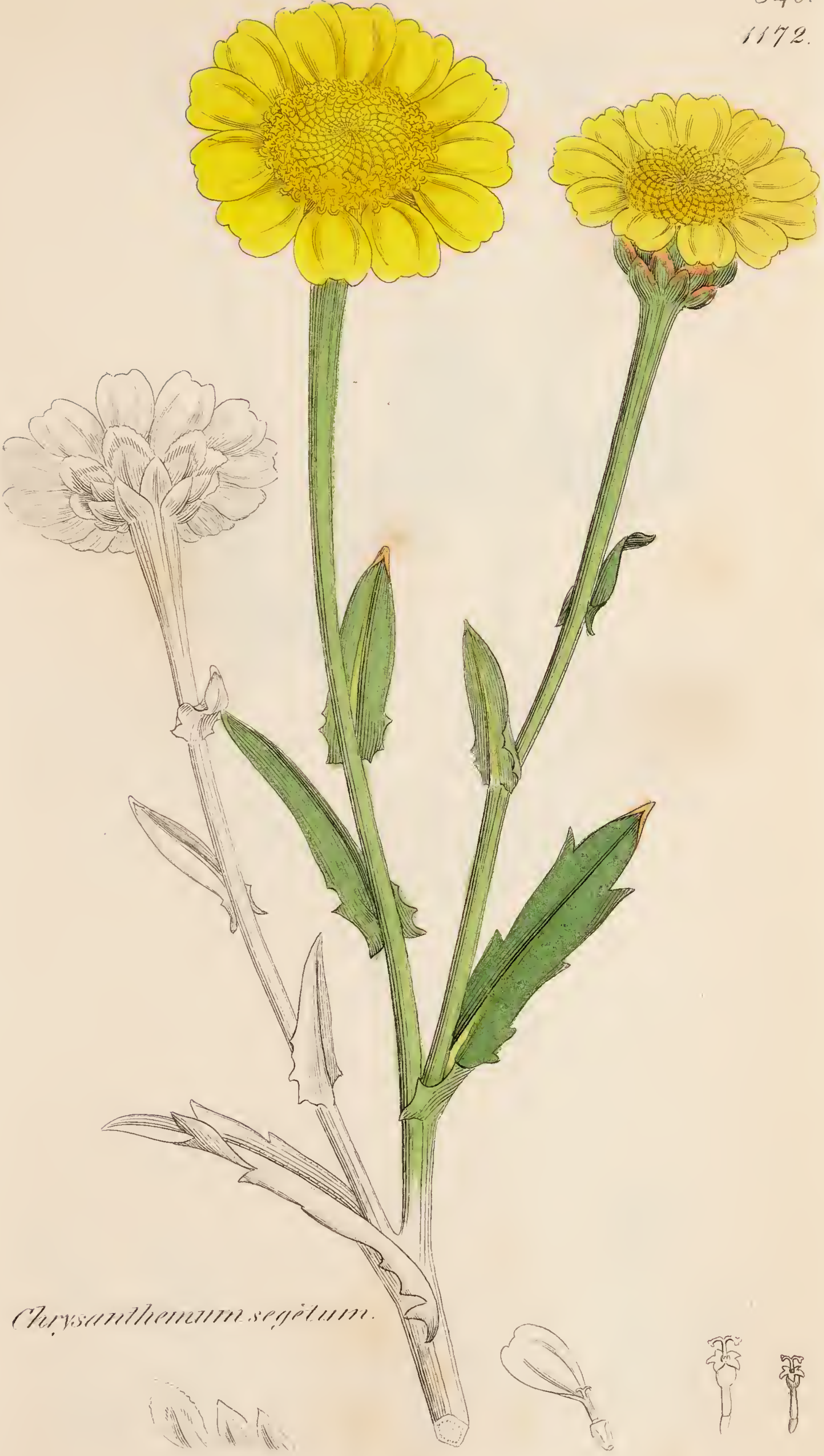
Bellis perennis.

[illegible] by Js Sowerby [illegible]



Chrysanthemum Leucanthemum.

540.
1172.

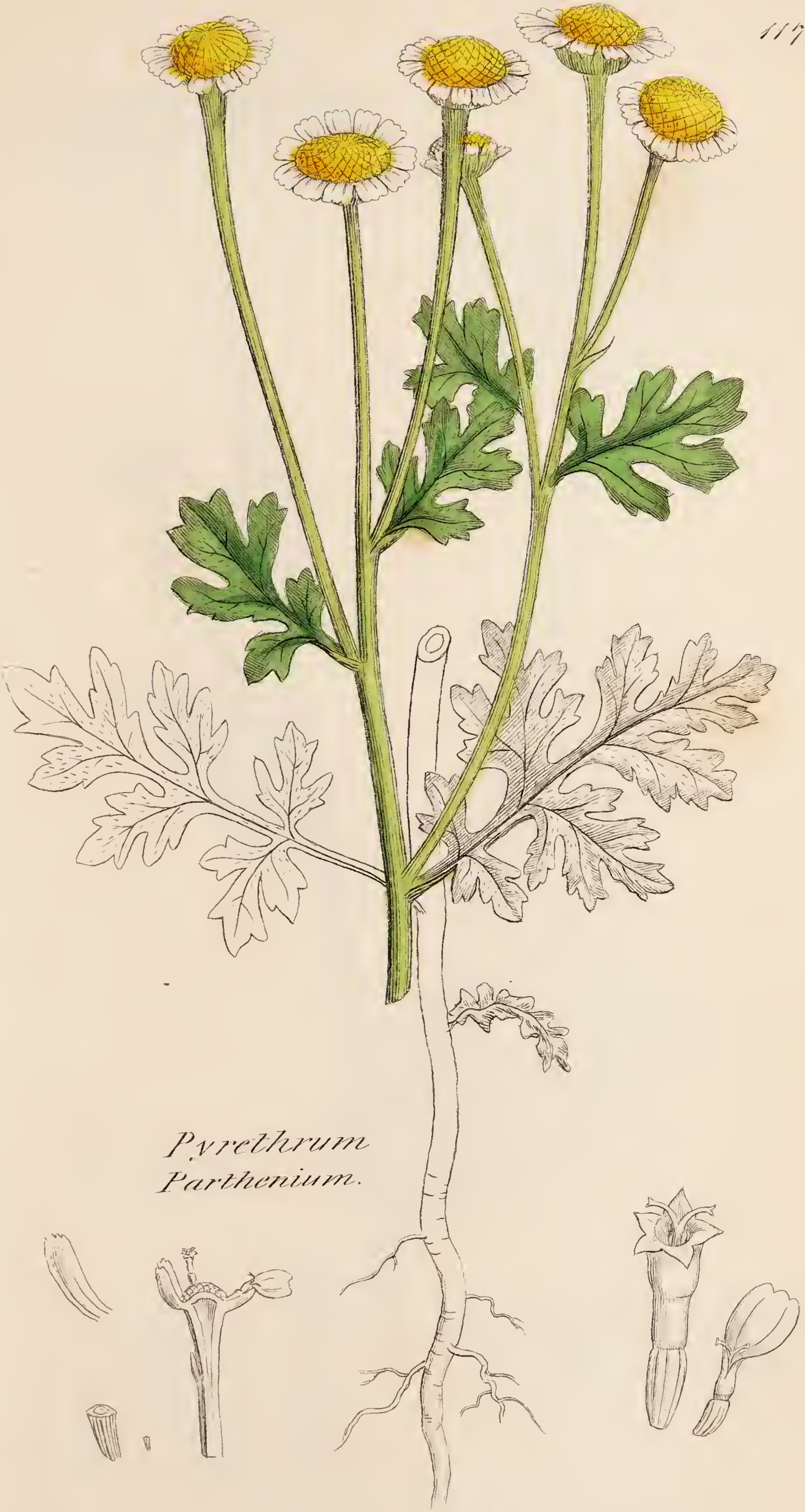


Chrysanthemum segetum.

Feb.y 1, 1799. by J.s Sowerby London

1231

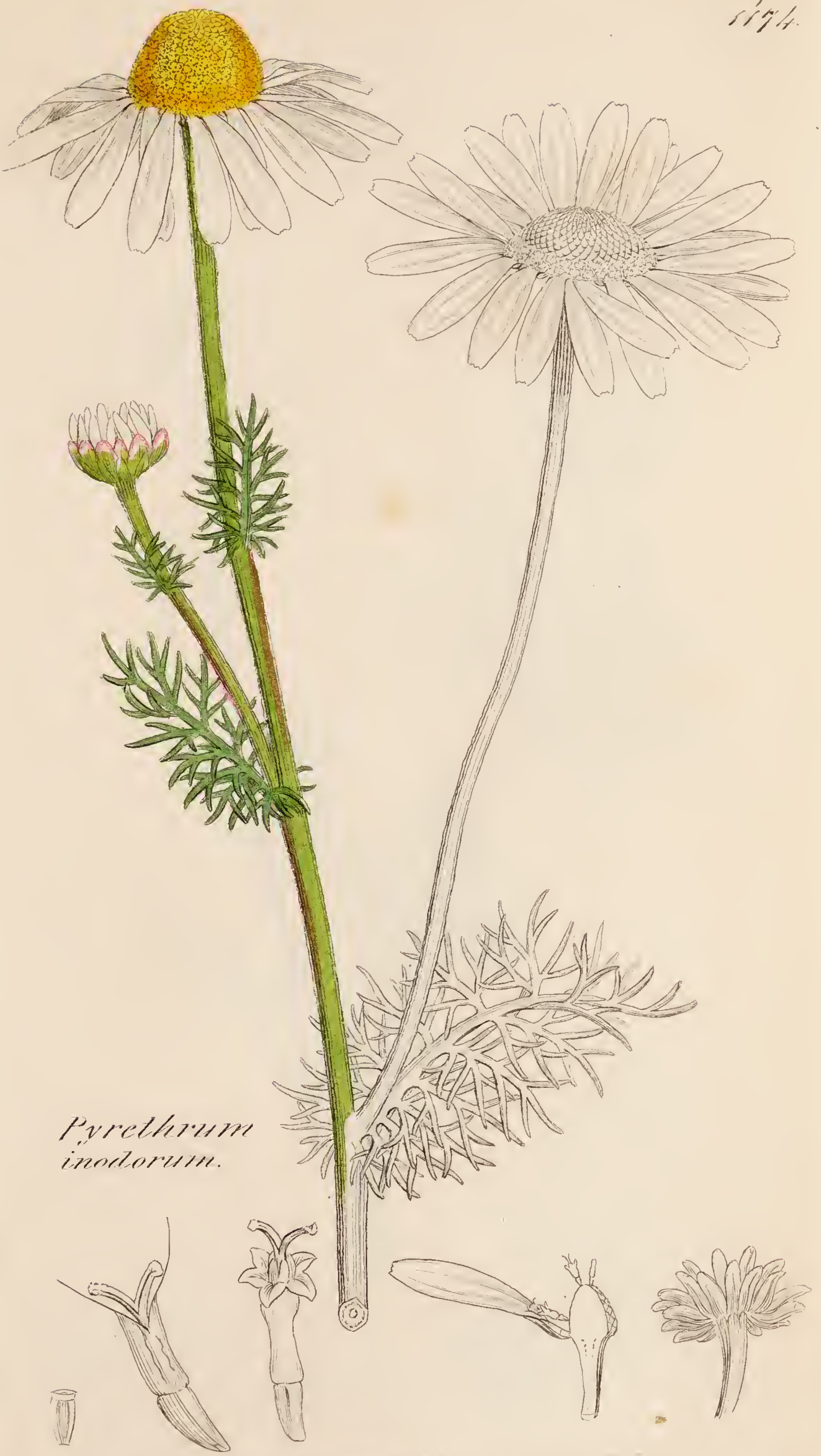
1173.



Pyrethrum
Parthenium.

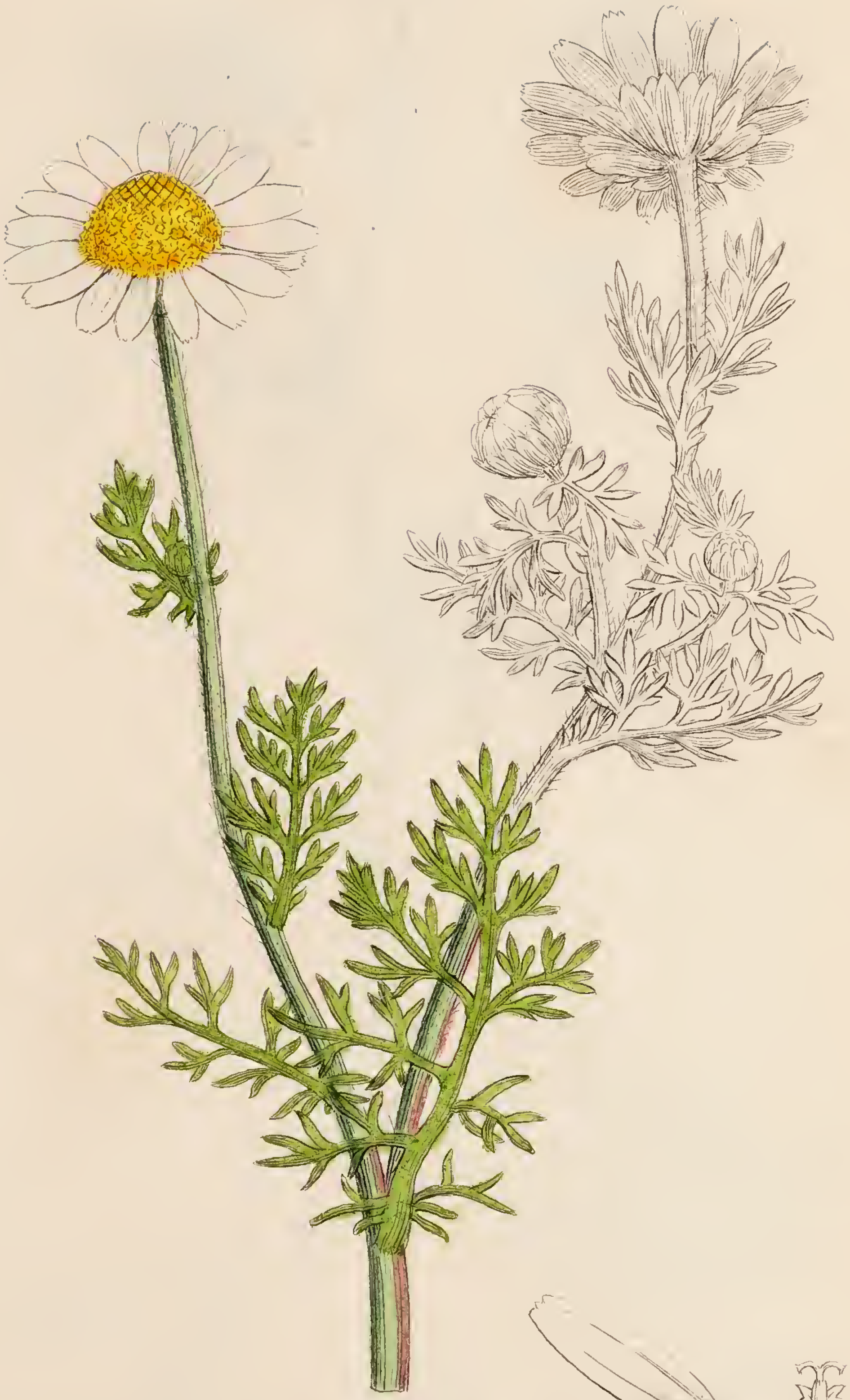
Novr 1 1803 Published by Jas Sowerby London.

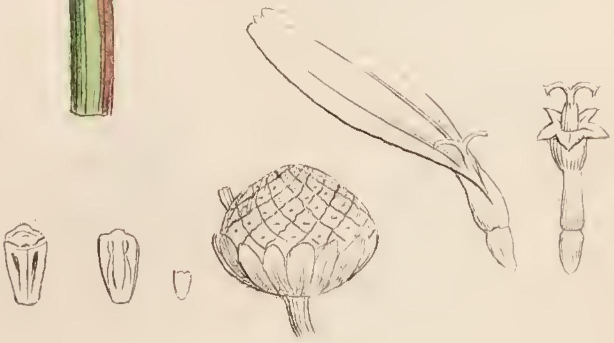
670.
1174.



Pyrethrum inodorum.

979
1175.



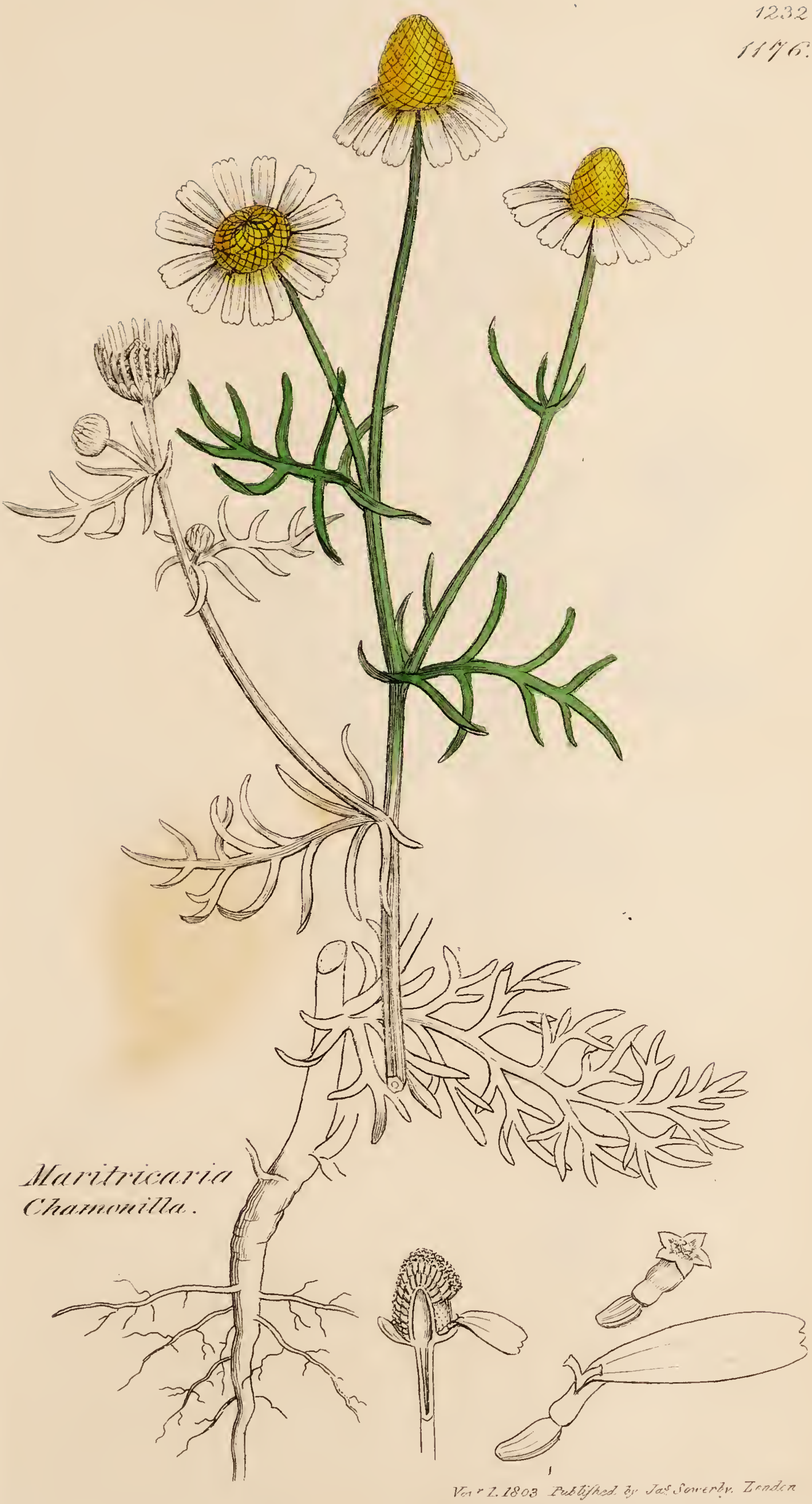


Pyrethrum maritimum.

Feb. 1. 1802. Published by Jas. Sowerby, London.

1232

1176.

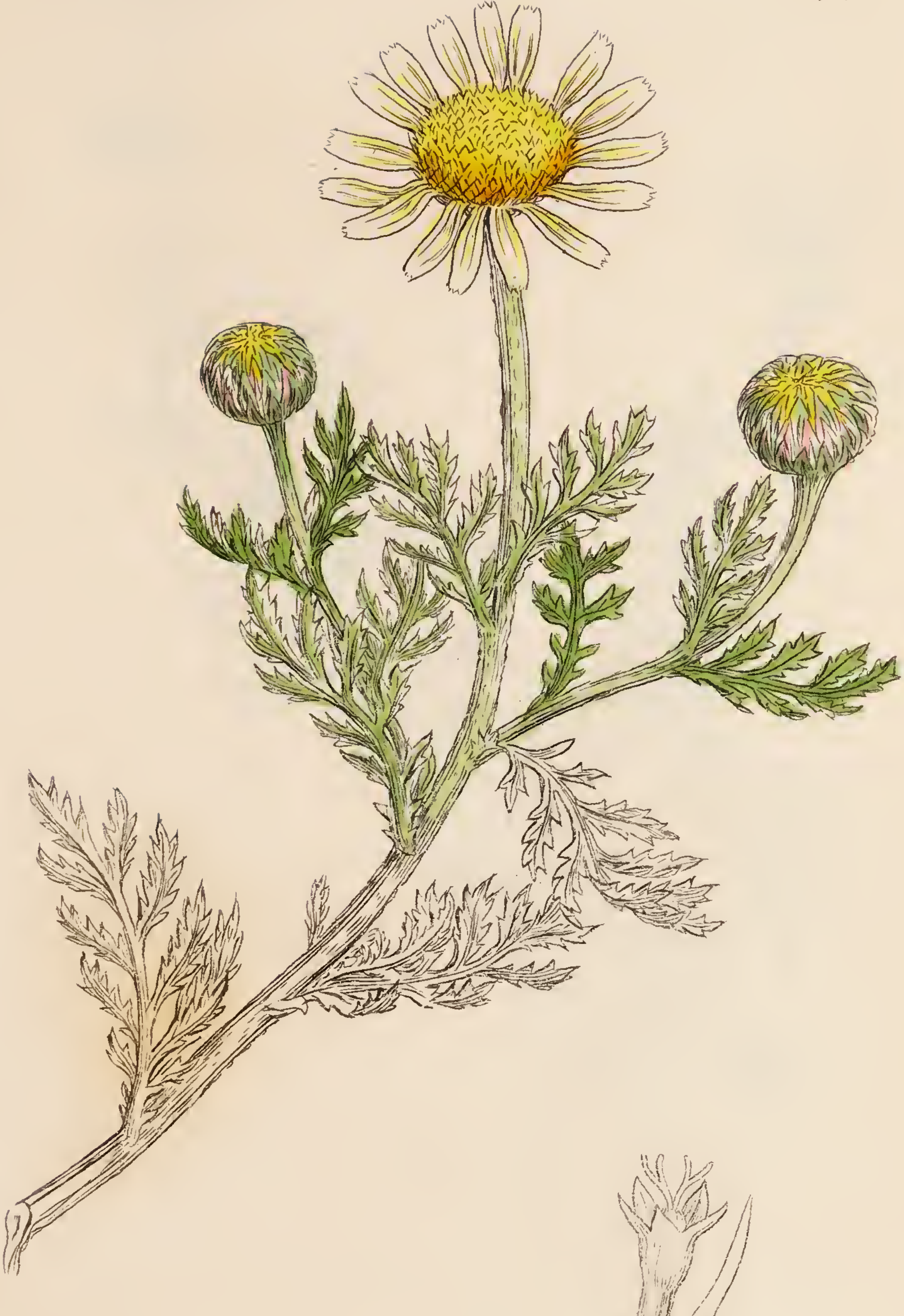


Maritricaria
Chamonilla.

Novr 1. 1803 Publiſhed by Jas Sowerby. London

2370

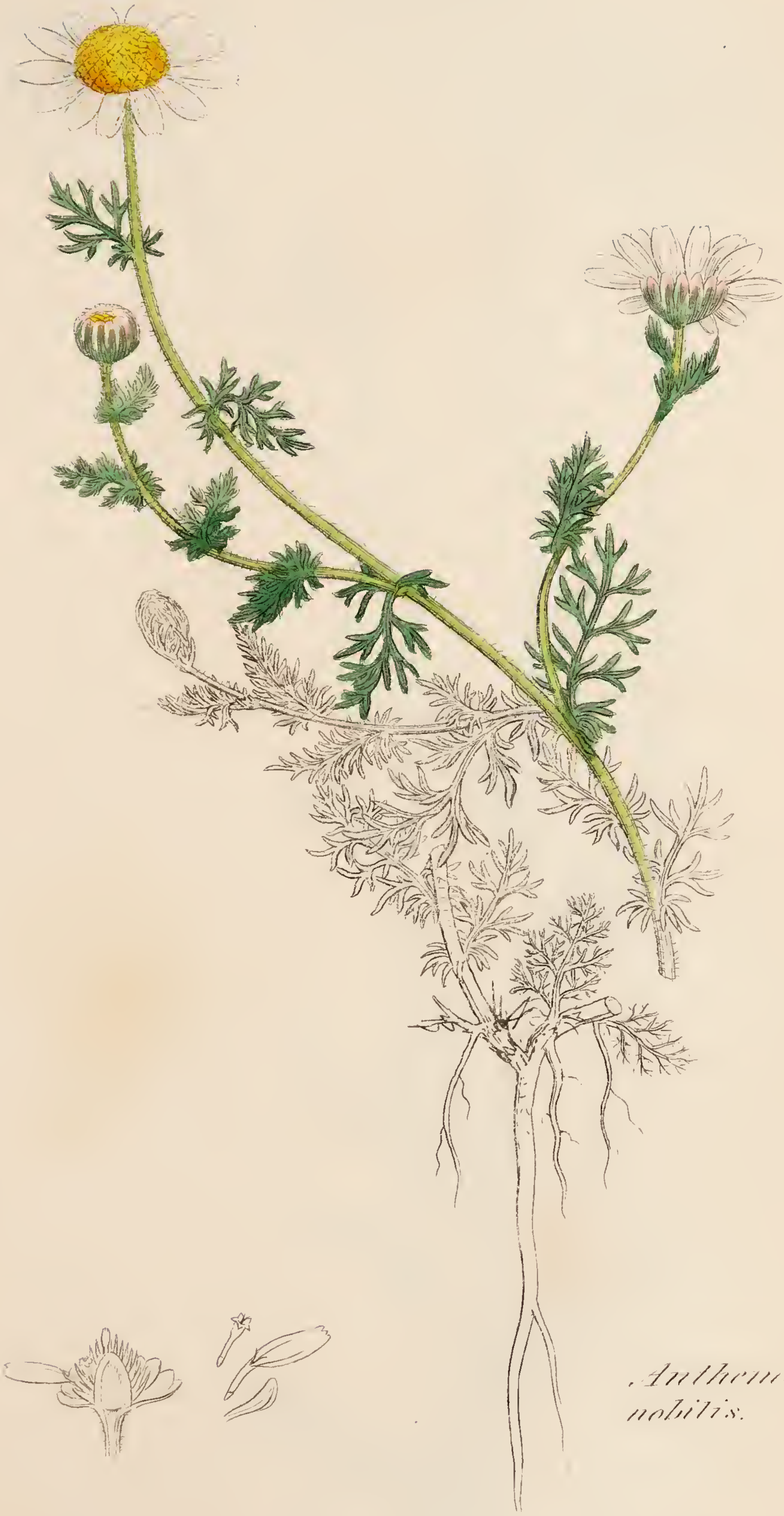
1177.



Anthemis maritima.

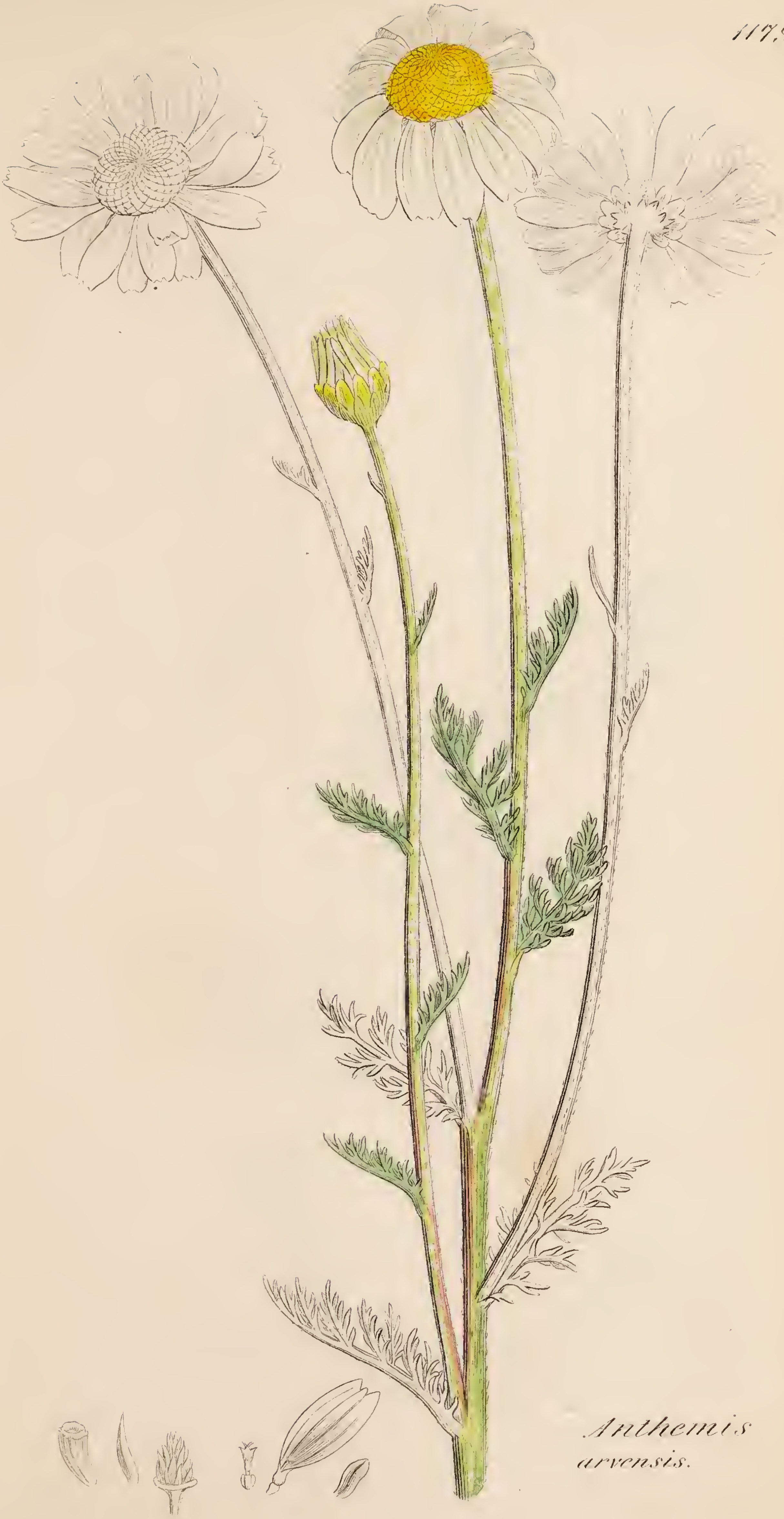
Jan. 1. 1812 published by Jas. Sowerby London.

980
1178



Anthemis nobilis.

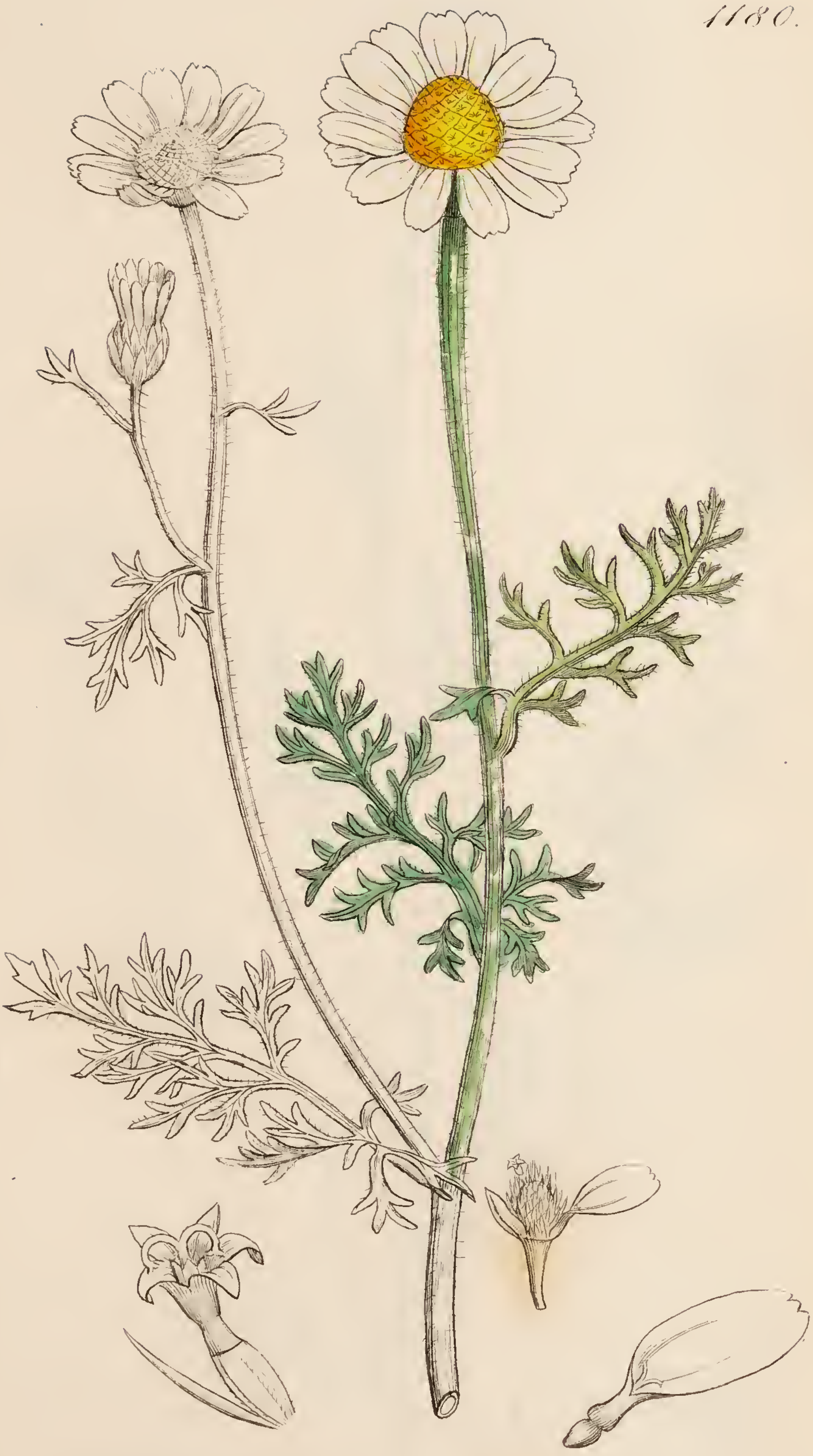
[illegible]



Anthemis arvensis.

1772

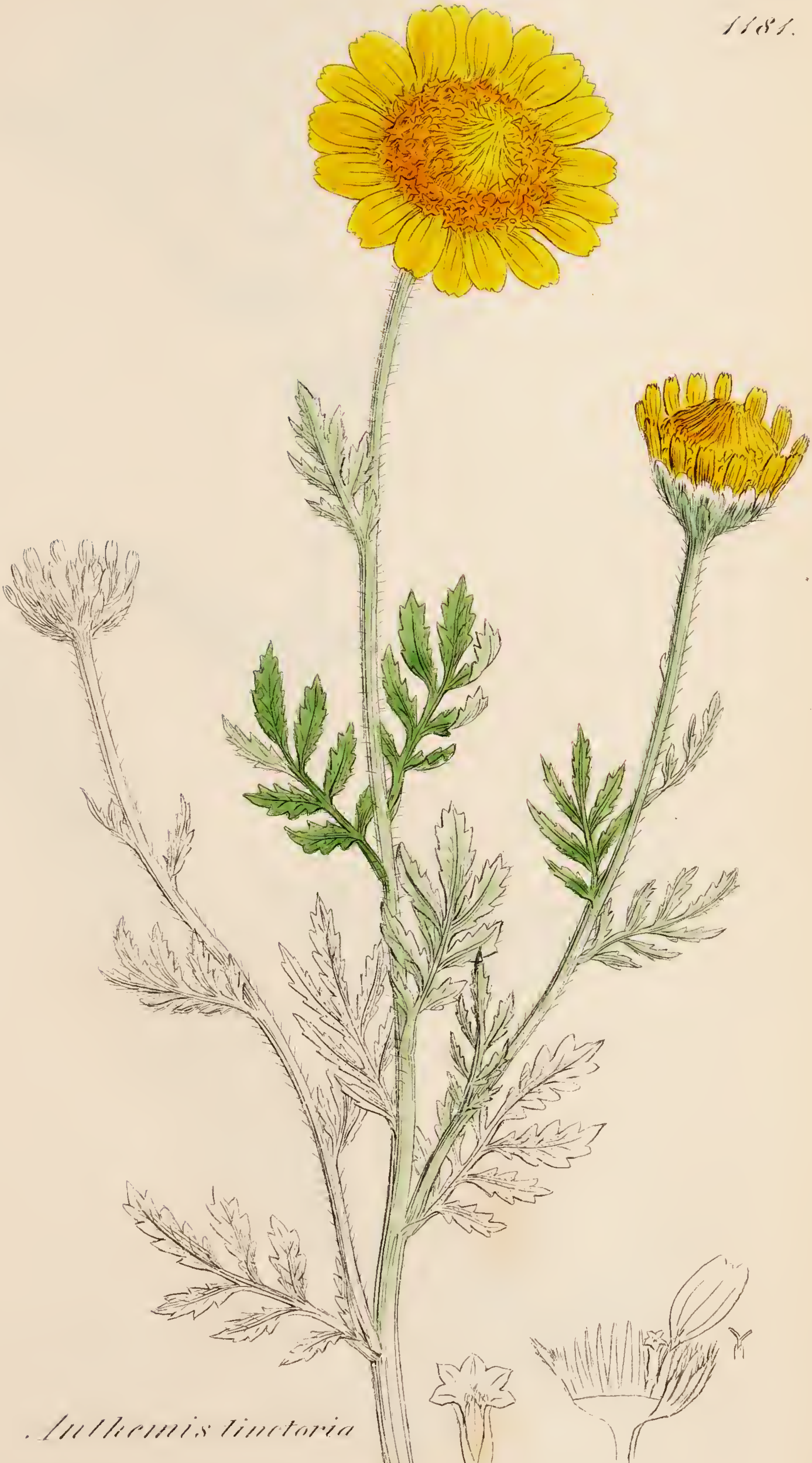
1180.



Anthemis Cotula.

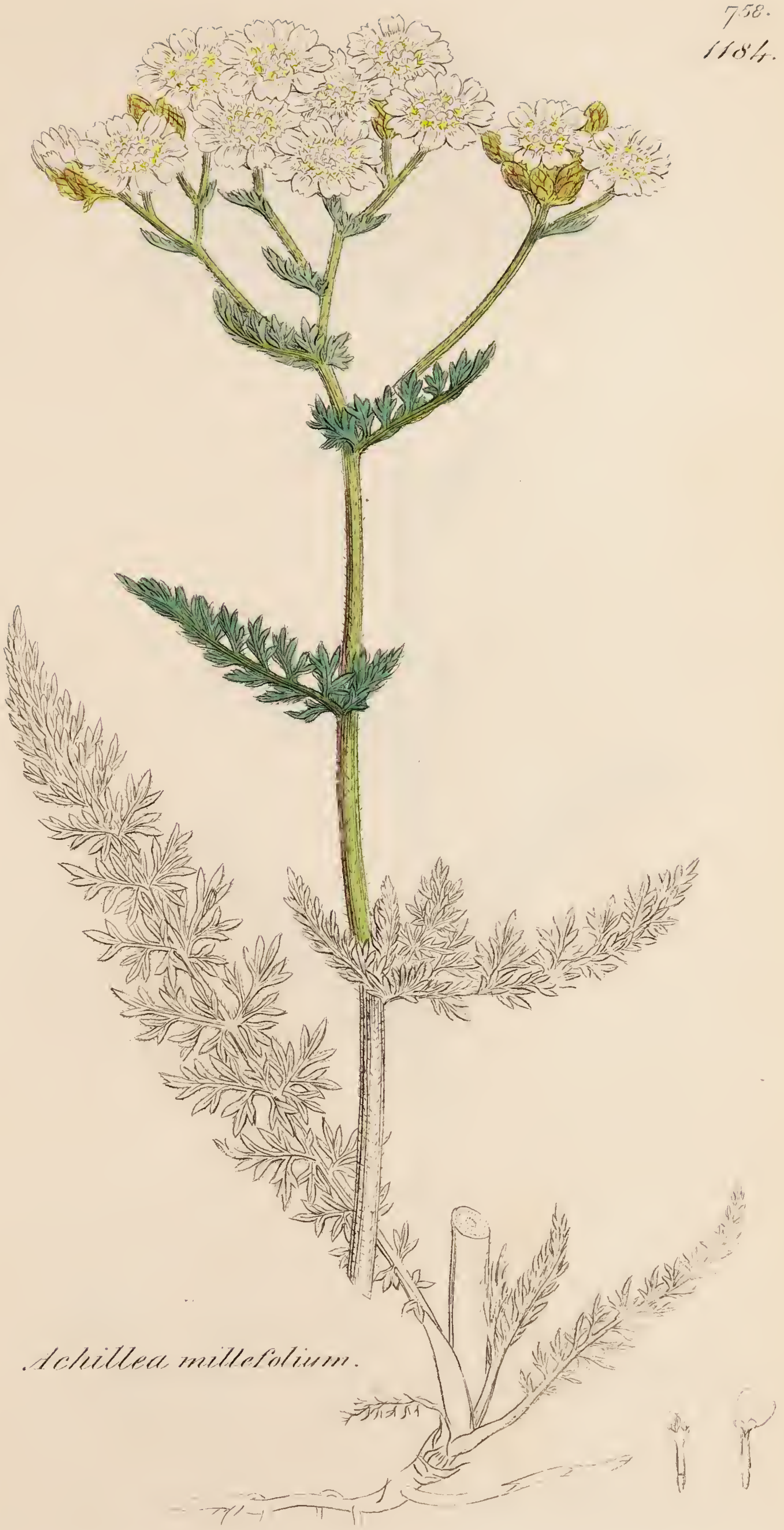
Aug. 1. 1807. Publish'd by Jn^{s} Sowerby London.

1472
1181.



Anthemis tinctoria

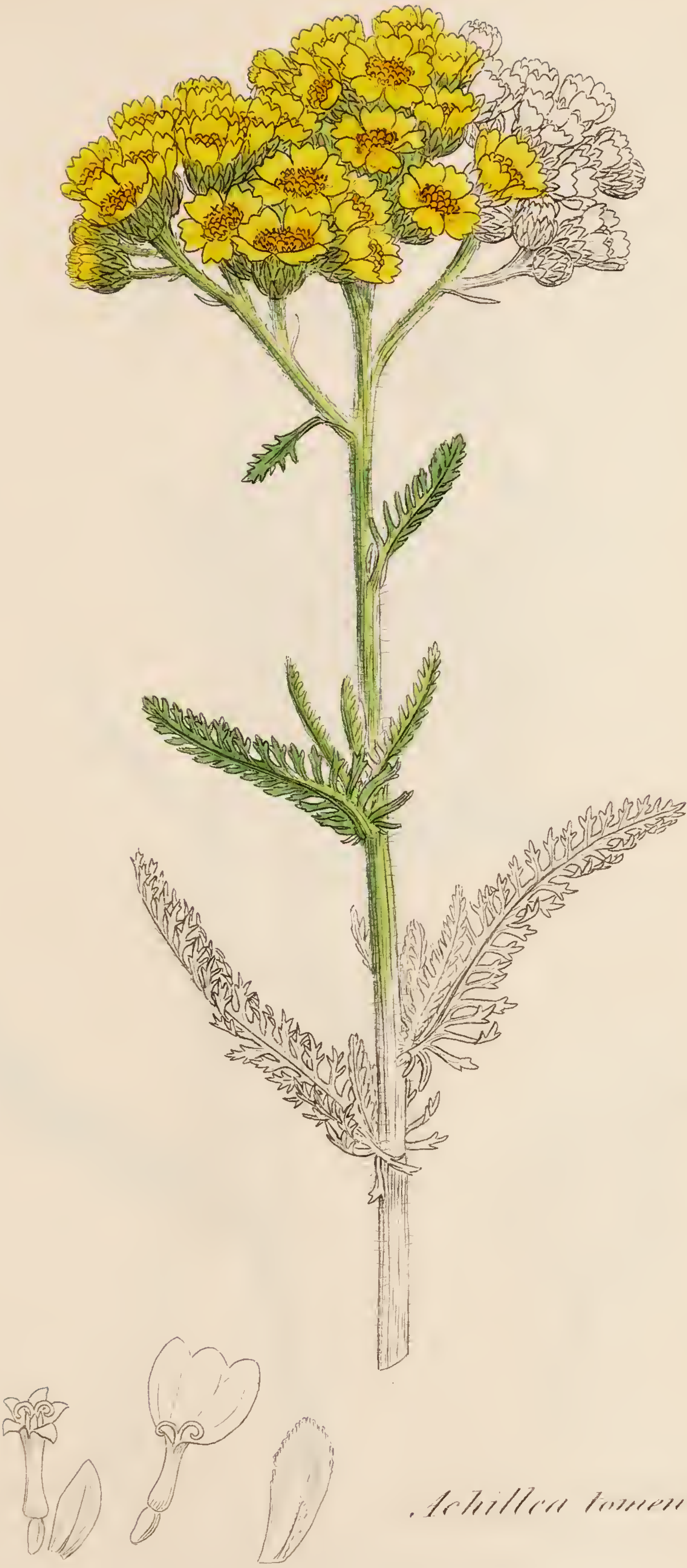
[illegible] 1. 180[illegible] Published by Jas. Sowerby. London.



Achillea millefolium.

2532.

1185.

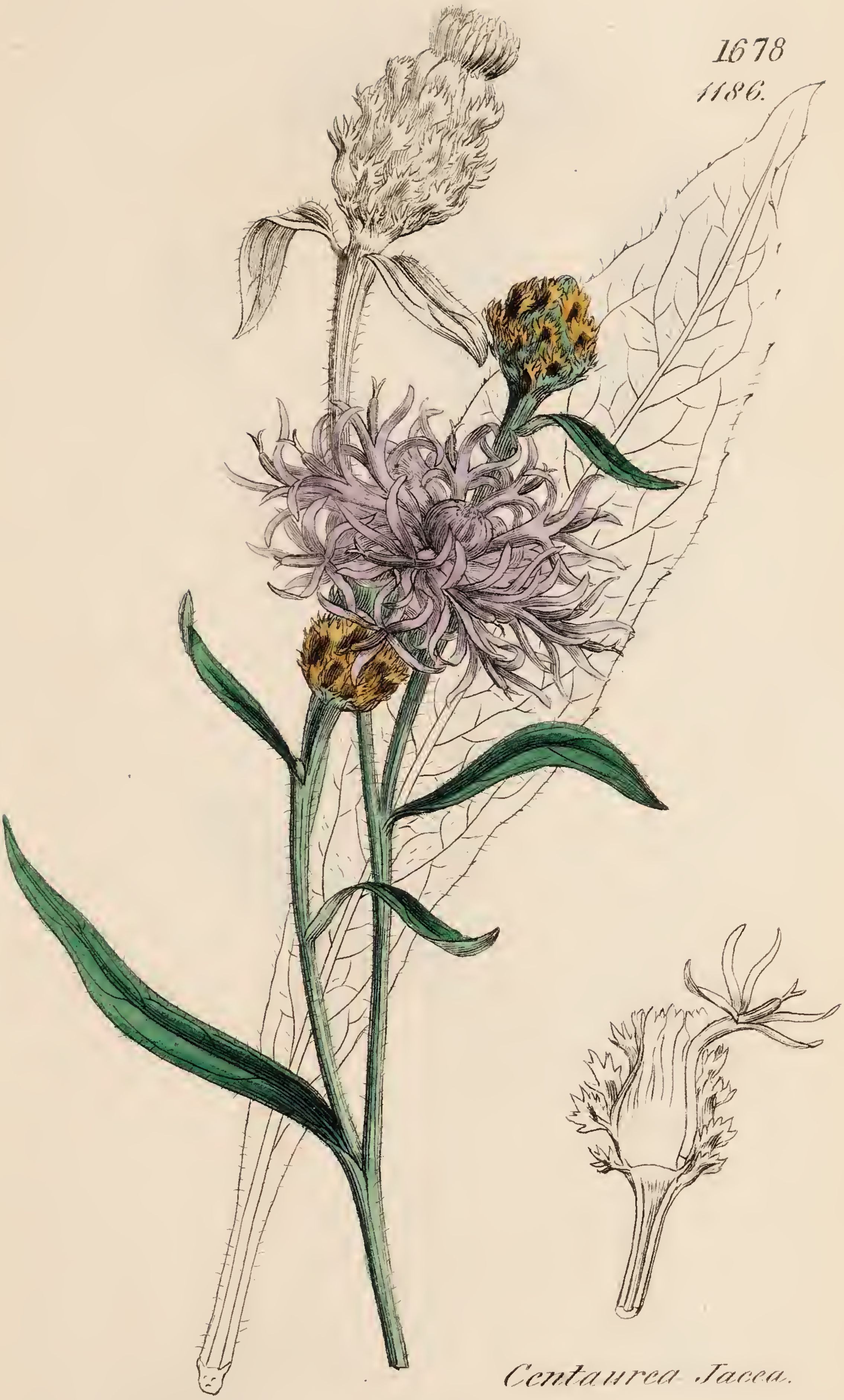


Achillea tomentosa.

Apl. 1 1803 published by Jas. Sowerby London

1678

1186.

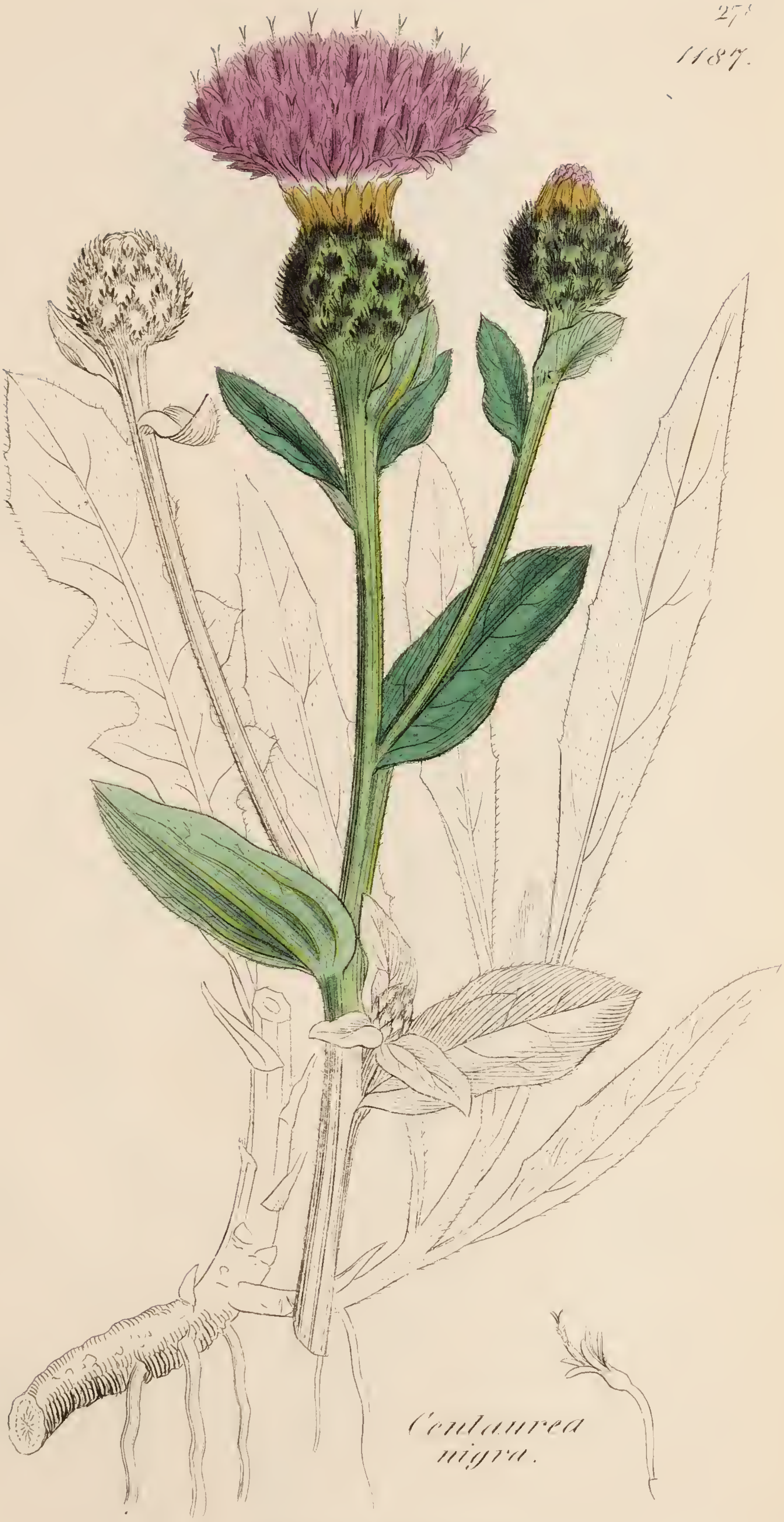


Centaurea Jacea.

Dec.r 1.1806. Publish'd by Ja.s Sowerby, London.

27.

1187.

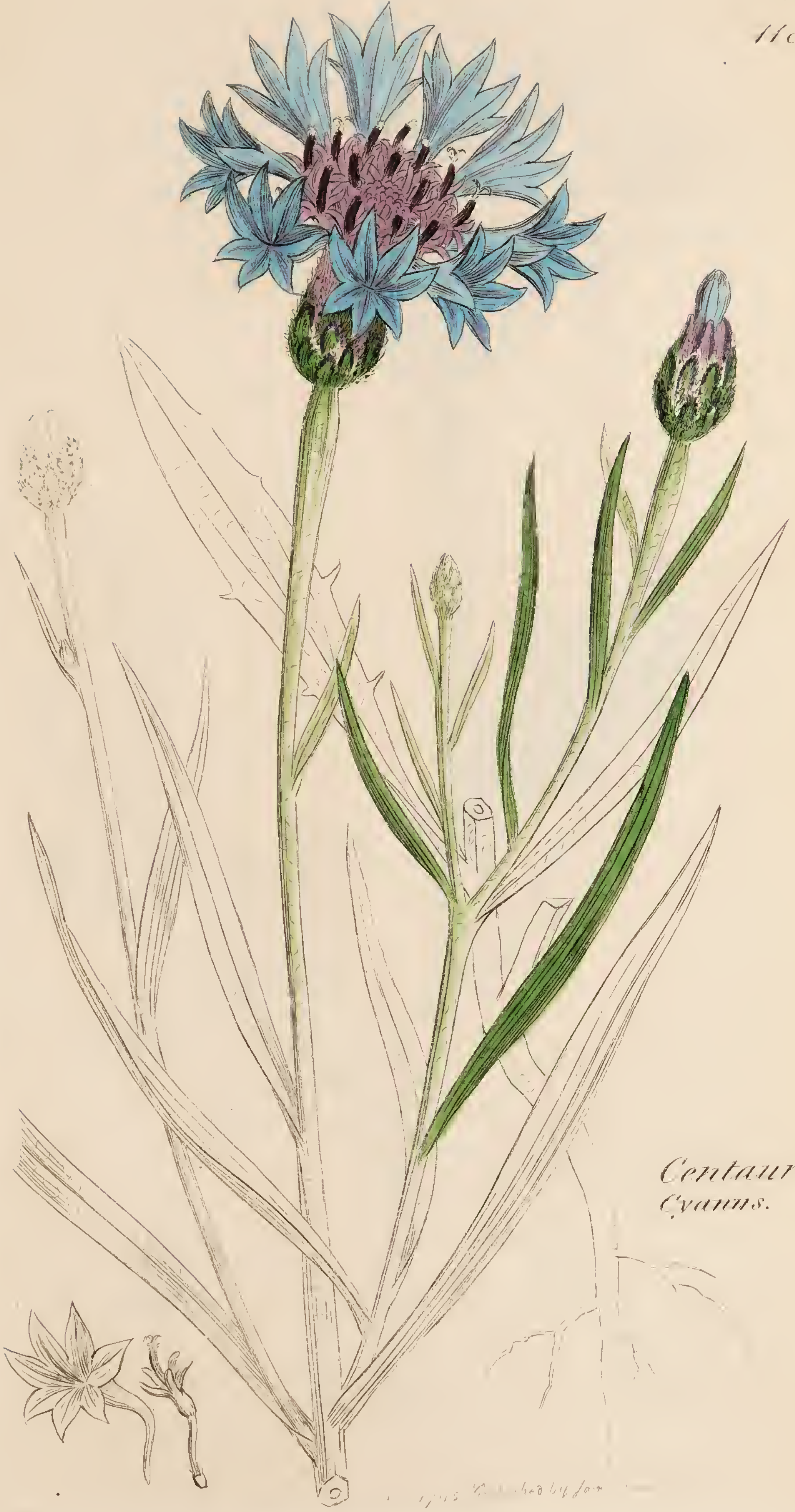


Centaurea nigra.

[illegible]

277.

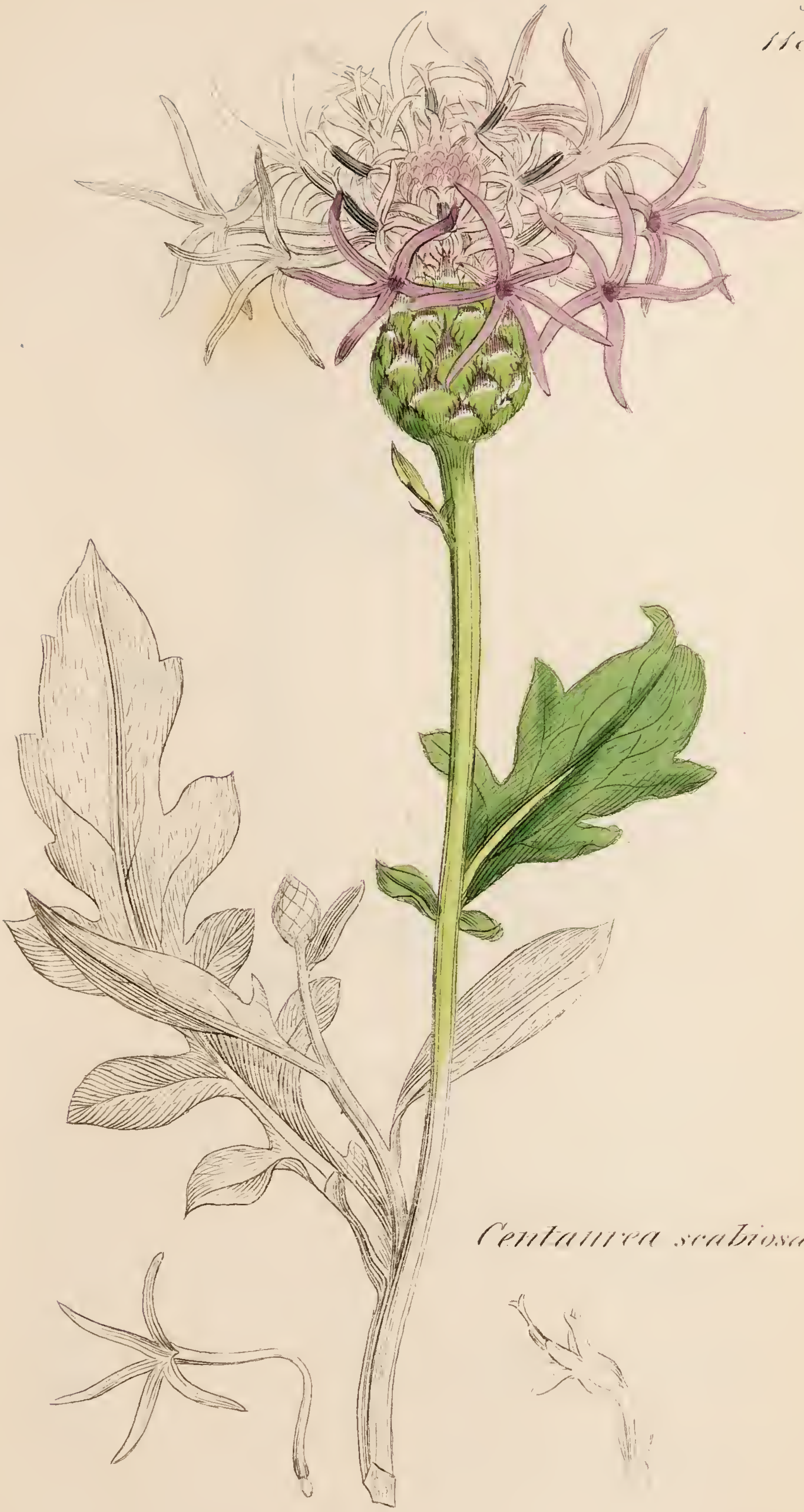
1188.



Centaurea Cyanus.

1795 Publish'd by Jas

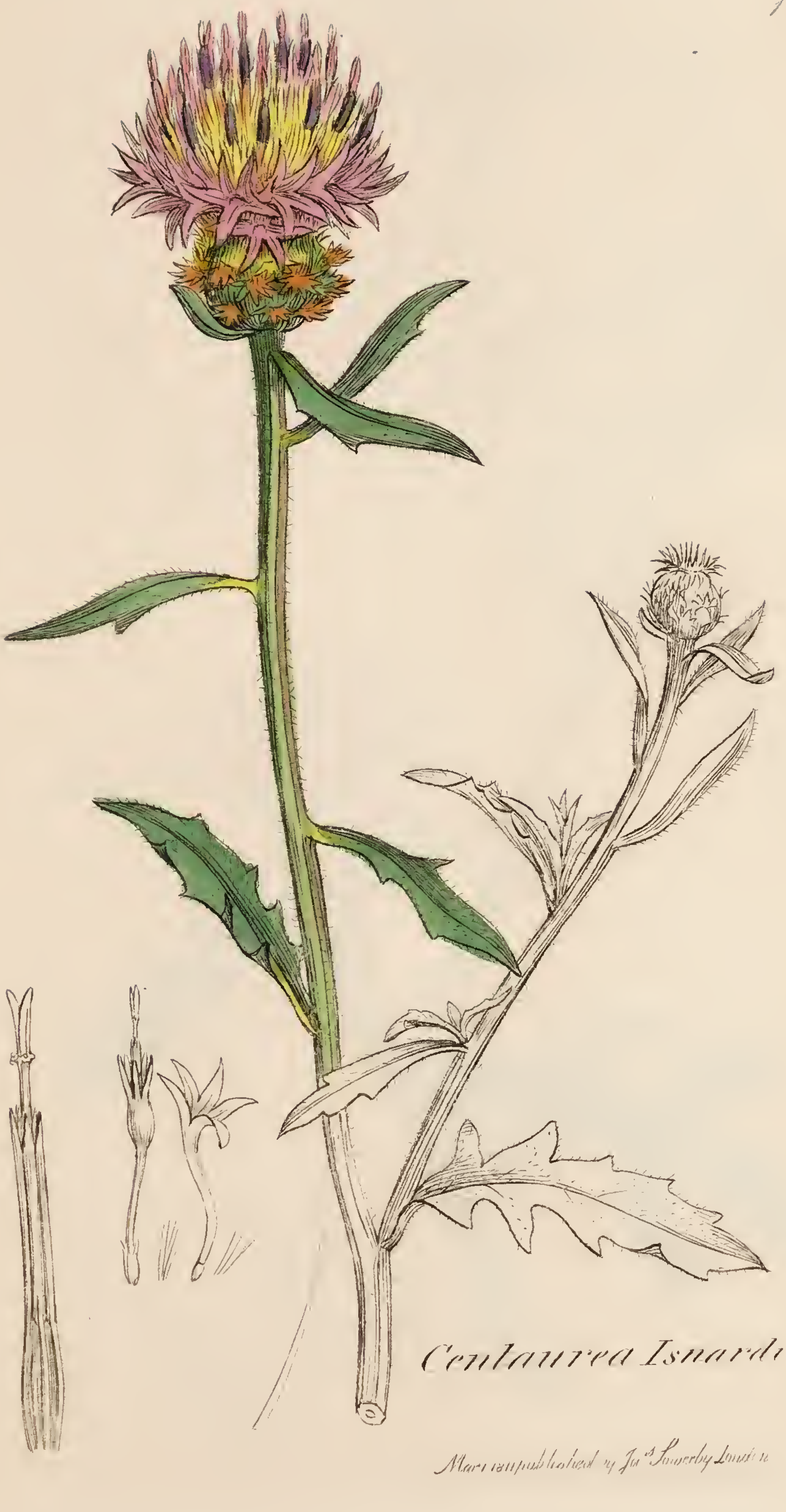
36.
1189.



Centaurea scabiosa.

22[illegible]

1191

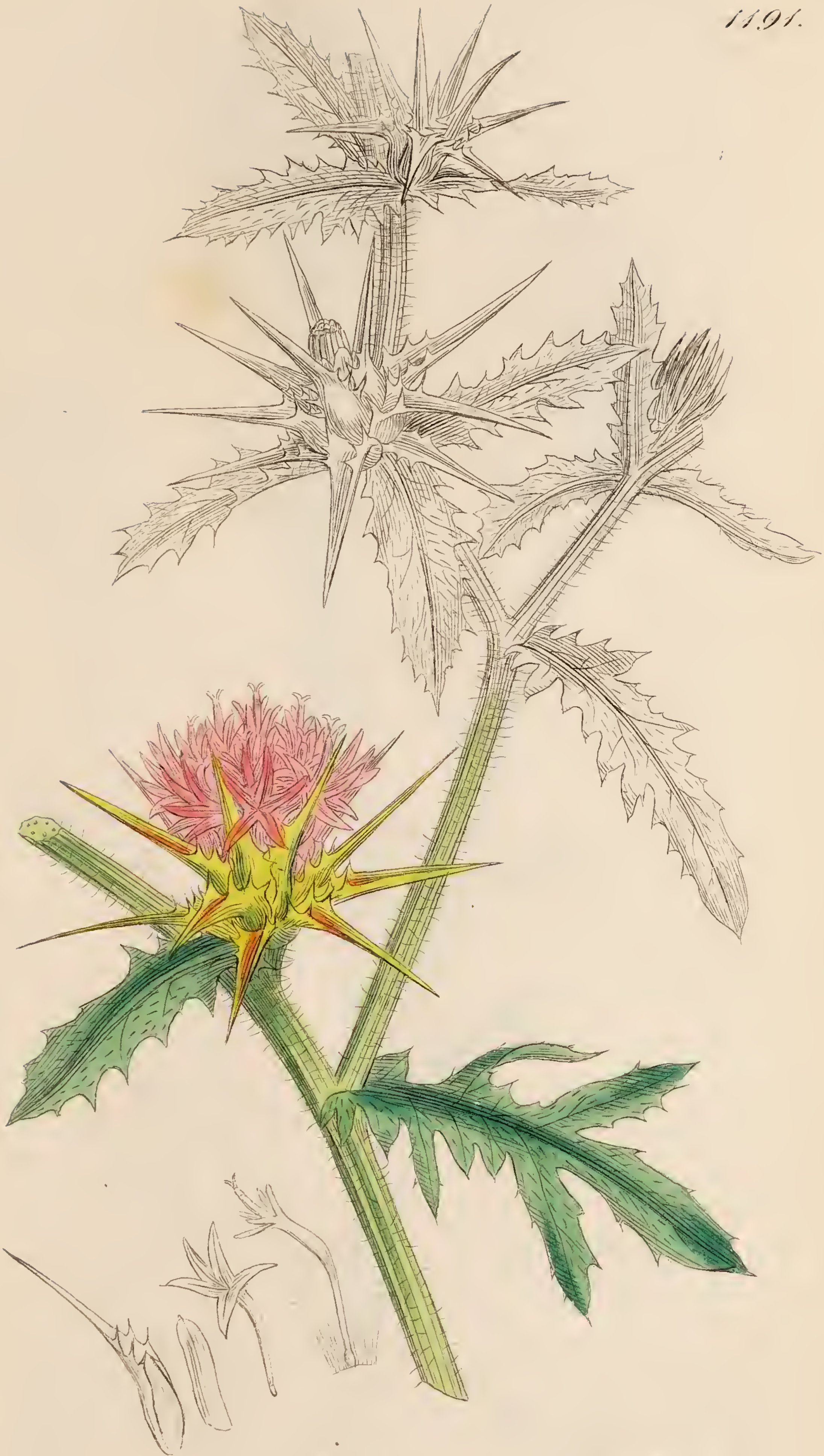


Centaurea Isnardi.

Mar 1 1811 published by Jas Sowerby London

125.

1191.

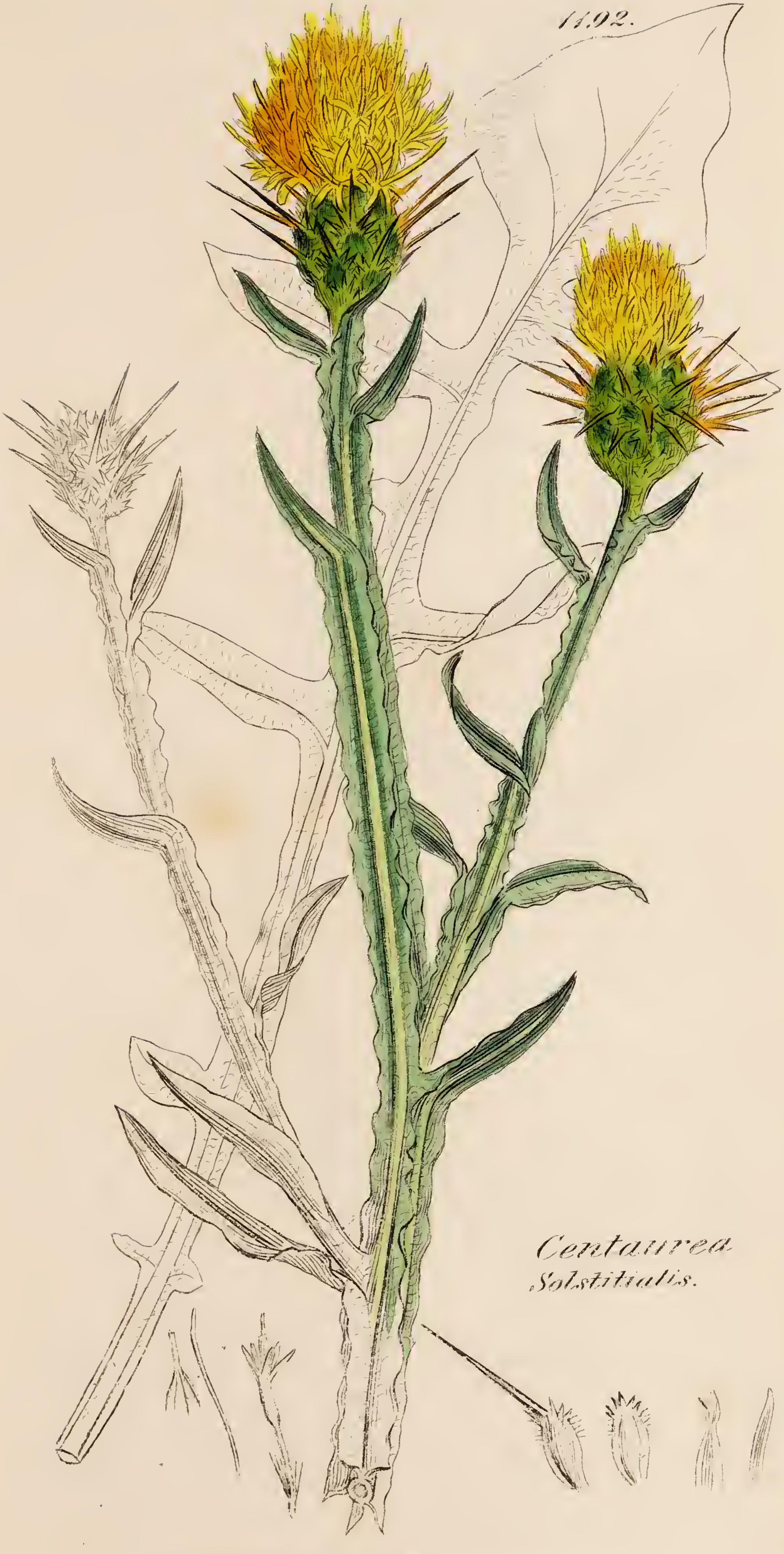


Centaurea Calcitrapa.

79

225

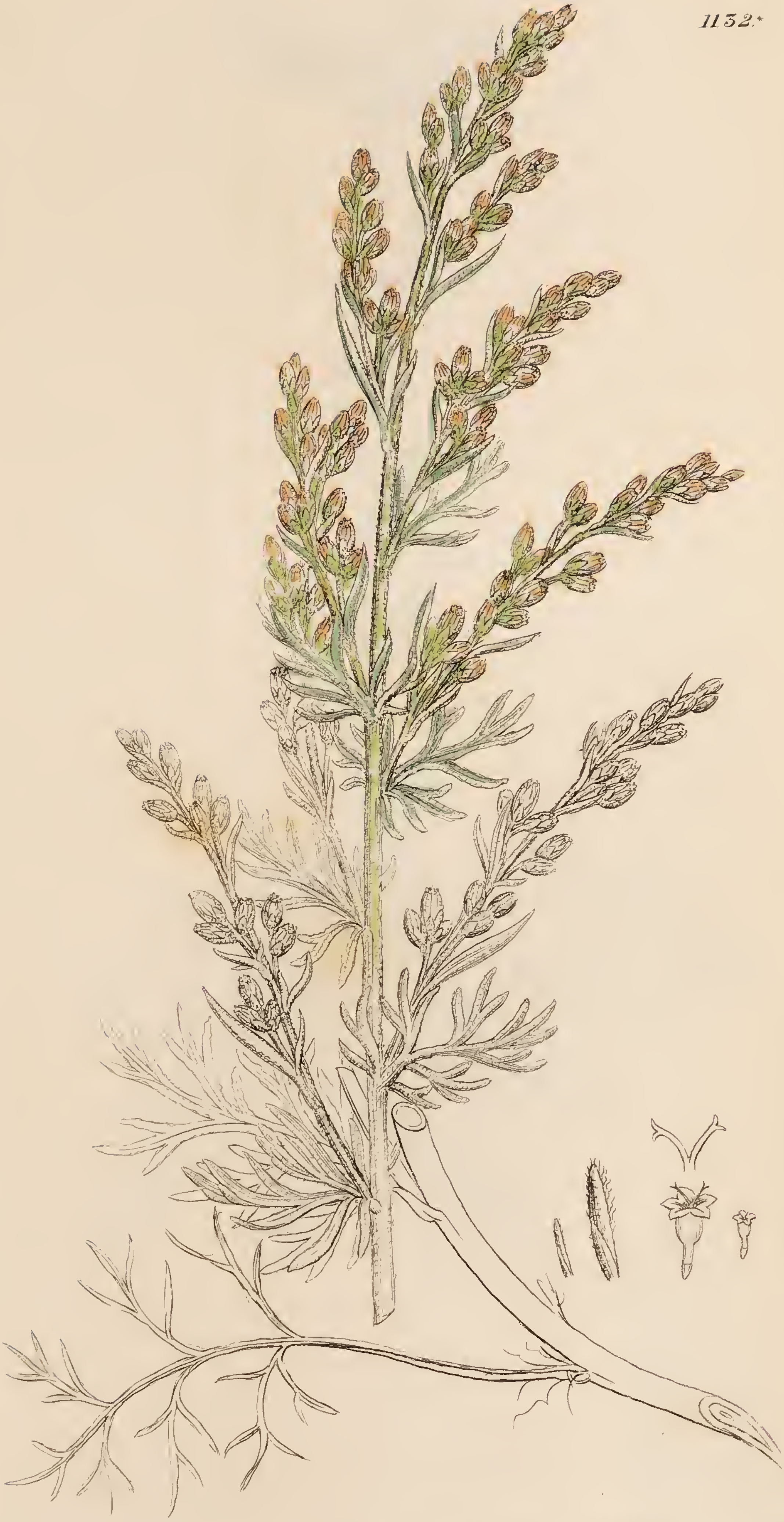
1192.



Centaurea
Solstitialis.

[illegible]

1001
1132.*



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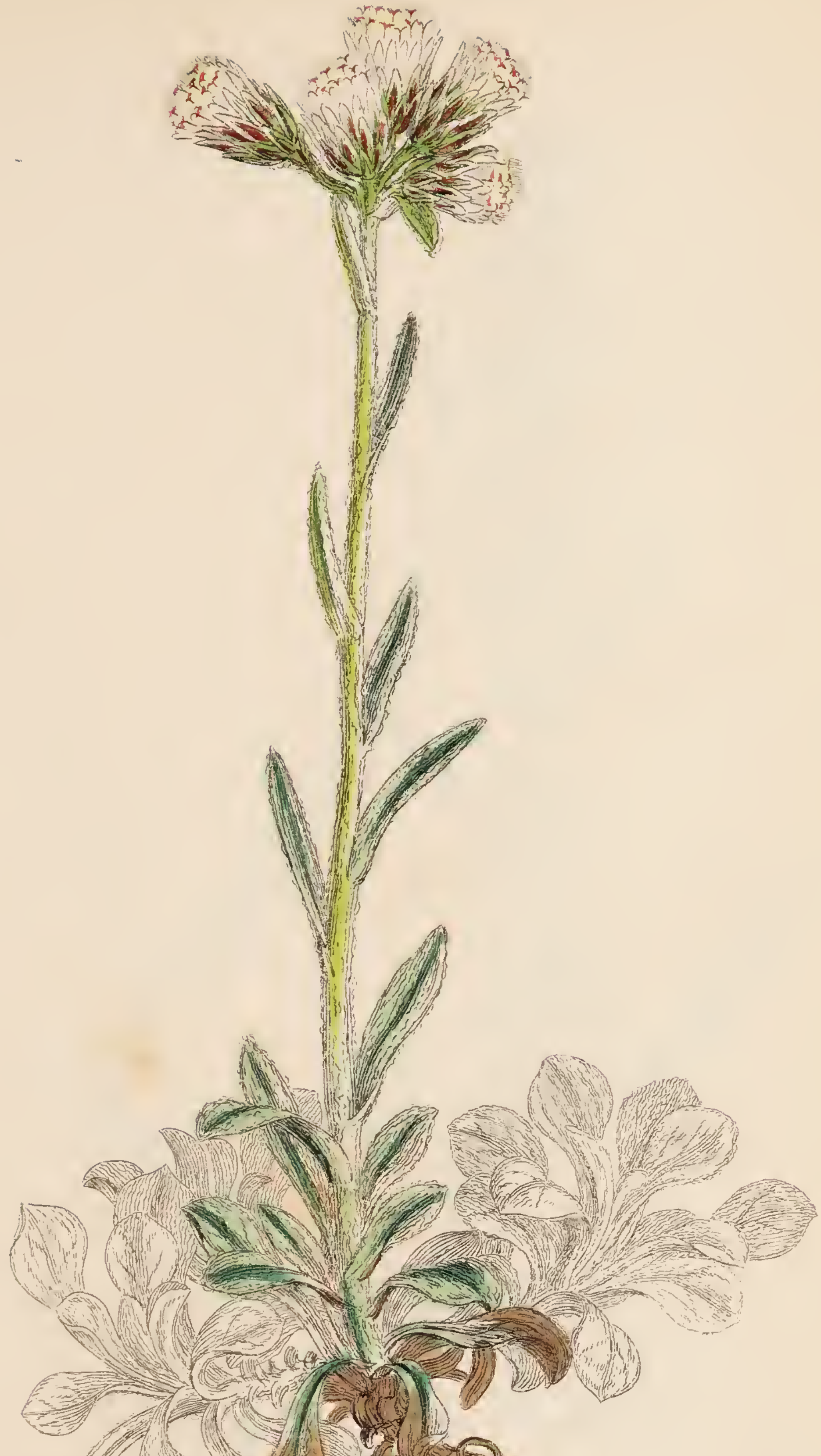
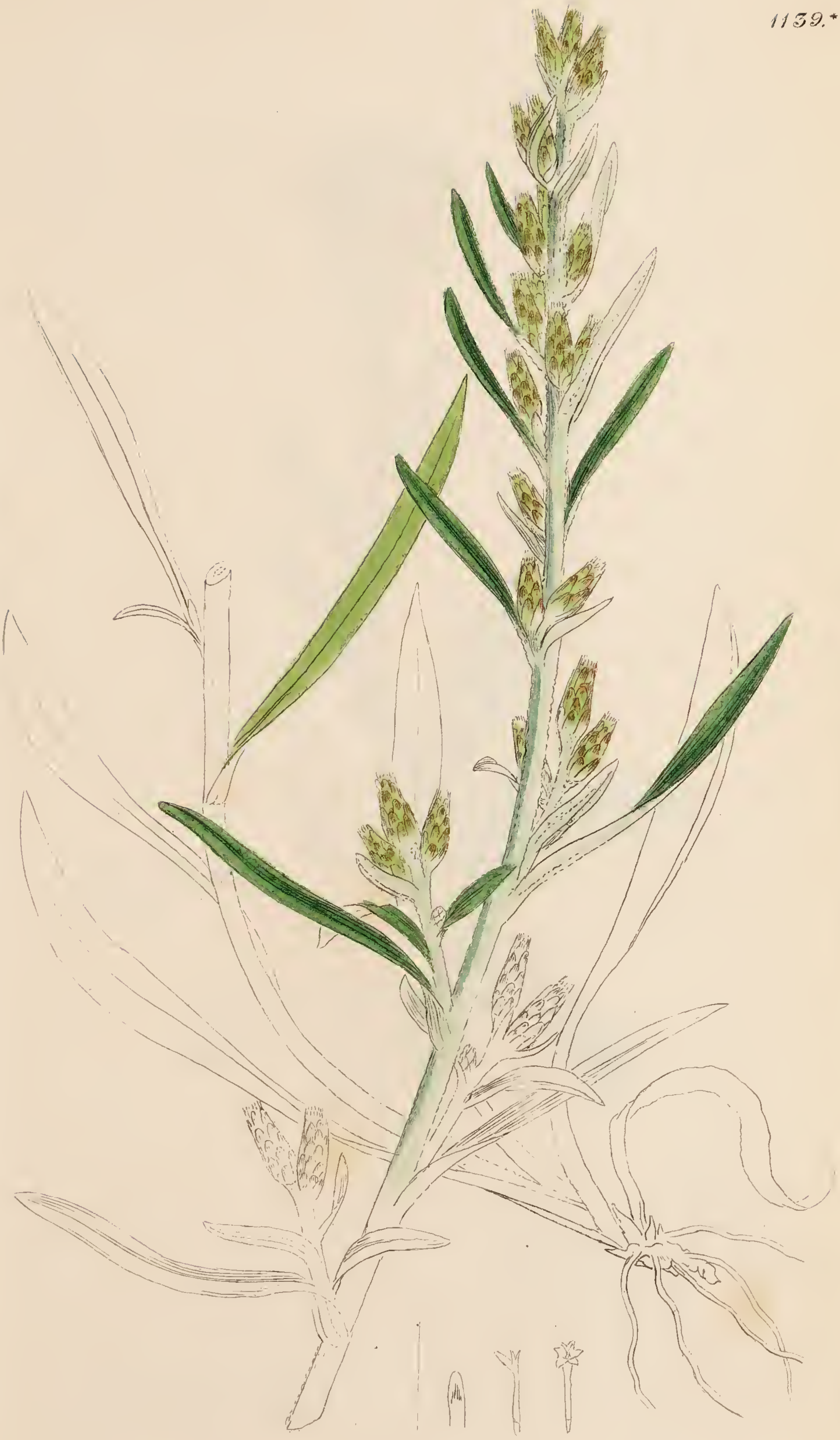


May 1st 1830.

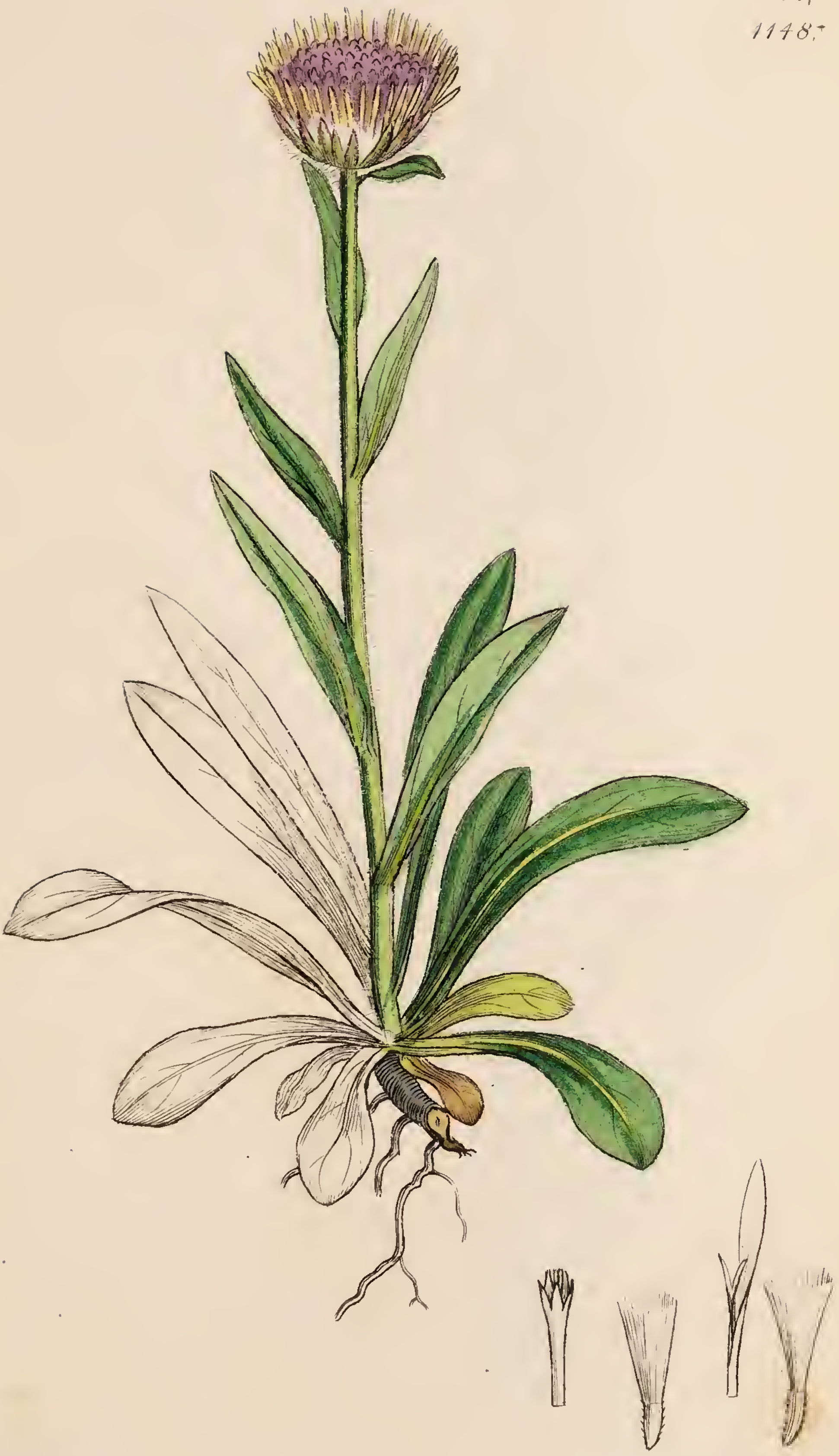
124

1139.*

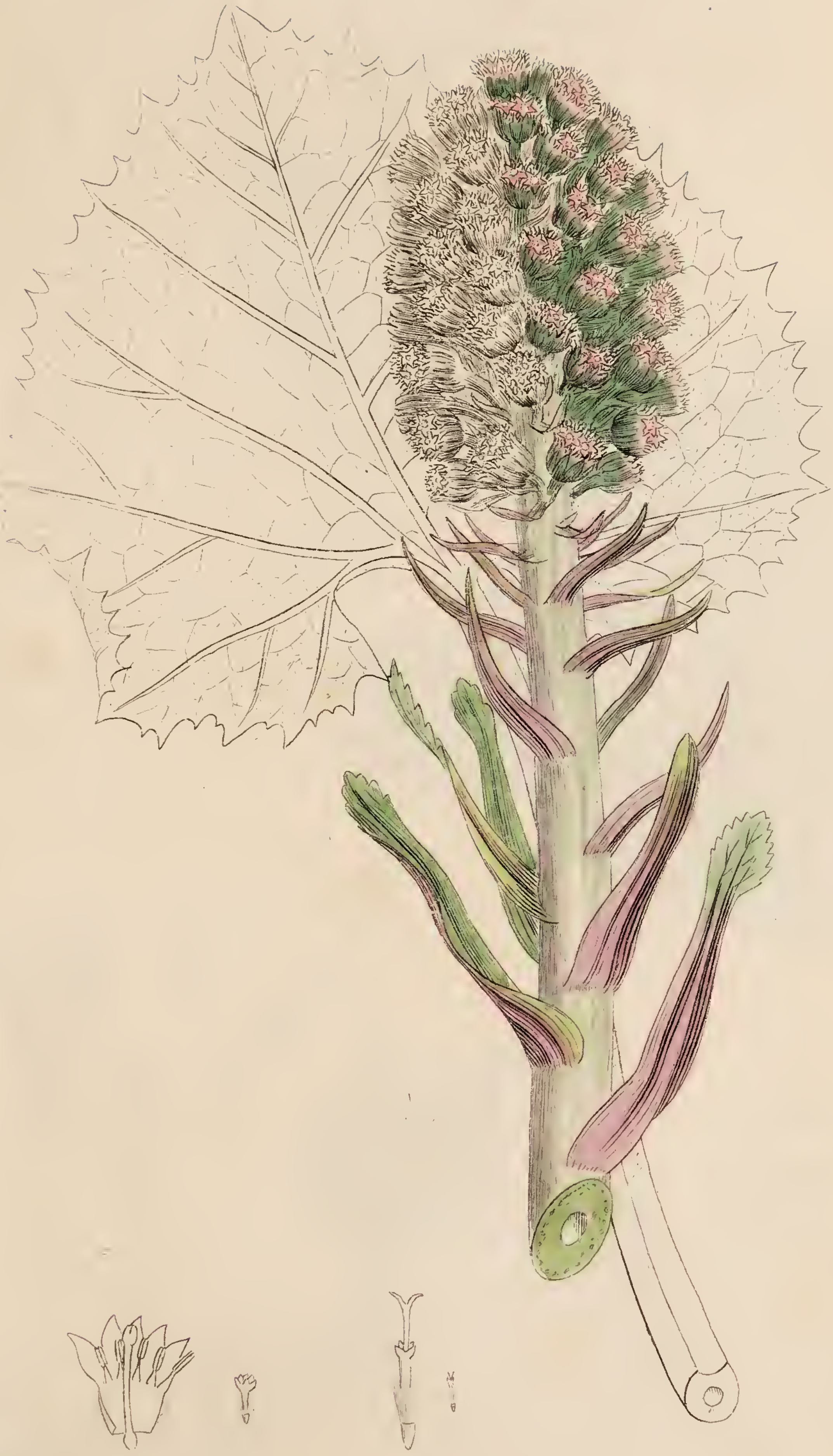


J. Sowerby delt. Aug. 1, 1703

2416.
1148.*



May 1 1812 published by Jas. Sowerby London



Novr. 1. 1797 Publish'd by Js. Sowerby London

2654.
1169.*